City Council
Study Session Agenda

October 24, 2017
Library Meeting Room
951 Spruce Street
7:00 PM

Note: The time frames assigned to agenda items are estimates for guidance only. Agenda items may be heard earlier or later than the listed time slot.

7:00 p.m.	**I.**	Call to Order
7:00 - 8:00 p.m.	**II.**	Discussion – Two-Year Sustainability Work Plan
8:00 – 9:00 p.m.	**III**.	Discussion –First and Final Mile Update
9:00 – 9:15 p.m.	**IV.**	Advanced Agenda & Identification of Future Agenda Items
9:15 p.m.	**V.**	Adjourn

SUBJECT:	DISCUSSION – TWO-YEAR SUSTAINABILITY WORK PLAN
DATE:	OCTOBER 24, 2017
PRESENTED BY:	ERIKA ARCHER, SUSTAINABILITY SPECIALIST

SUMMARY:
In November 2016, City Council approved the Louisville Sustainability Action Plan (SAP), developed by the Louisville Sustainability Advisory Board (LSAB). The SAP addresses five sustainability categories: Climate & Energy, Water, Transportation, Waste, and Local Food and Agriculture. The SAP expresses the desires of the City to make progress towards sustainability, both internally in the operations of the City facilities, and externally through the actions of the Louisville residential and business community. Intended as a supplement to the SAP, the 2-Year Work Plan measures the City's progress in accomplishing the 57 strategies identified in the SAP and establishes recommended actions for continuing the City's progress and achieving these goals. The recommended actions from the 2-Year Work Plan have been prioritized based on several factors, including stakeholders, timeframe estimate, funding and importance.

FISCAL IMPACT:
None at this time. While many budget estimates are provided, future funding requests associated with the recommended actions from the 2-Year Work Plan will be brought to City Council for discussion and approval separately.

DISCUSSION:
Staff is seeking input from City Council on the work Plan and proposed recommendations.

ATTACHMENT(S):

1. Draft – 2-Year Sustainability Work Plan
2. Presentation – 2-Year Sustainability Work Plan
3. 2016 Sustainability Action Plan

2-Year Work Plan for the
Louisville Sustainability Action Plan

Prepared by: Erika Archer, Louisville Sustainability Specialist

October 2017

Credits & Dates

Forthcoming

Table of Contents

Overview

In November 2016, the Louisville City Council approved the first-ever Louisville Sustainability Action Plan (SAP), developed by the Louisville Sustainability Advisory Board (LSAB). The SAP is divided into five sustainability categories: Climate & Energy, Water, Transportation, Waste, and Local Food and Agriculture. The SAP expresses the desires of the City to make progress toward sustainability, both internally in the operations of the City facilities, and externally through the actions of the Louisville residential and business community. Intended as a supplement to the SAP, this 2-Year Work Plan sets specific, time-bound outcome goals for departments to implement the strategies in the SAP for a stronger economy and a cleaner environment.

Goals & Objectives

The goal of this 2-Year Work Plan is to provide an assessment of progress made from the SAP and to recommend steps that may reasonably be performed within 24 months that will allow the SAP strategies to be SM. Information is provided primarily in list and chart format for ease of readability. Further research and notes have been provided to the LSAB containing more of the background and rationale behind the recommendations offered in this plan, as well as additional recommendations regarding the strategies themselves.

In order to meet the strategies set forth in the SAP, multiple considerations went into the recommendations.

1) **Multiple benefits.** It is the City's desire to provide solutions that address multiple sectors and factors (municipal, residential, business, health, infrastructure, economic, natural resources, etc.).
2) **Collaborative approach.** Develop and prioritize solutions through an inclusive process that involves input and commitment from staff, governmental, and local resources.
3) **Social equity.** Provide solutions that are inclusive, considering vulnerable populations.
4) **Environmental benefit.** Integrate approaches that work in harmony with natural systems and that are environmentally and fiscally sustainable.
5) **Technical soundness.** Identify solutions that reflect best practices and that have been tested and proven to work in similar context in neighboring or similar communities.
6) **Harmonize with existing activity.** Expand, enhance, or leverage previous and current local and regional planning efforts.
7) **Long-term and lasting impact.** Create long-term gains for the community with solutions that are replicable, sustainable, and long-lasting.

The purpose and scope of this 2-Year Work Plan is to create a plan for the City of Louisville to provide specific guidance in the form of recommendations in order to realistically meet as many SAP strategies as possible over the next two years.

Definitions

A **target** refers to a conceptual goal, as outlined in the 2016 Sustainability Action Plan.

A **strategy** refers to a plan or direction that the City could take to partially or fully achieve the target, as outlined in the 2016 Sustainability Action Plan.

A **recommendation** refers to a specific action that could be taken in order to meet the strategy given in the 2016 Sustainability Action Plan.

Method

To create this 2-Year Work Plan, the following method and framework was applied:

1) **Input.** Sustainability Input Interviews were conducted with relevant department heads, as well as with select stakeholders within departments, in order to capture sustainability input regarding the 57 strategies outlined in the SAP. These interviews not only provided critical information regarding the ability to complete these projects and resources required, but it also made the process of determining projects an inclusive one, helping to ensure collaboration and greater success to meet the strategies. In all, the 2-Year Work Plan represents input from more than 22 staff stakeholders across all departments in the City, including relevant department heads, as well as from City Council (ongoing) and the Louisville Sustainability Advisory Board.

2) **Research.** Using the input and direction provided, existing programs and projects in the City of Louisville were further researched across departments. Neighboring communities were interviewed as well in order to gain insight regarding technical soundness, best practices, and lessons learned.

3) **Synthesis.** Findings from both the research and input were synthesized and processed into a list of recommendations, with the goal to fulfill the strategies outlined in the SAP.

4) **Prioritization.** To prioritize the recommendations, each was measured by the following factors: stakeholders, time required to implement the strategy, funding expectations, and importance relative to Greenhouse Gas Emissions. The following weights were assigned and applied in order to give a final prioritization score on a scale of 0 (low) – 12 (high):

Funding
Scale: 1 (least availability of funding) through 5 (highest availability of funding)
- 1 = Requires additional budget
- +3 = Likely to find all or partial funds (i.e. through grants)
- 5 = Within current budget

A strategy may receive up to 5 points for Funding.

Estimated Timeframe for Completion
Scale: 1 (longest amount of time) through 4 (shortest amount of time) / Ongoing = +1
- 1 = 24 months+
- 2 = <24 months
- 3 = <18 months
- 4 = <6 months
- +1 = Ongoing

A strategy may receive up to 5 points for Timeframe.

Environmental Importance relative to effect on Greenhouse Gas (GHG) Emissions
This is a multiplier to give a strategy extra prioritization based on the importance factor of whether or not it will affect environmental factors. This could include GHG emissions, air quality, water quality, or soil quality.

- 1.0 = Does not improve environmental factors
- 1.1 = Improves environmental factors with significant effort
- 1.2 = Improves environmental factors with low effort

Prioritization Score
The total prioritization score is determined by the following formula:

$$(\text{Funding Score} + \text{Timeframe Score}) \times \text{Environmental Importance Factor} = \text{Prioritization Score}$$

This framework method was presented to the Interim City Manager, the Assistant to the City Manager, and the Louisville Sustainability Advisory Board and approved in advance of its application to the recommendations.

It should be noted that this framework should not be considered the final prioritization designator, as there may be strategies which receive a lower prioritization score than stakeholders desire, but remain a priority. In these cases, stakeholders have flexibility to add/delete priorities based on other factors. This framework should only be used as a tool to help in the prioritization of projects into this 2-Year Work Plan.

It is also important to note that prioritization refers to how easily (funding resources) and quickly (near or long-term) a recommendation may be accomplished, rather than to the importance of the recommendation itself.

The framework matrix was populated with the data based on research and input received from the stakeholders of these strategies, and prioritization scores were tallied.

5) **Prioritized Recommendations**. Recommendations were compiled in order of timeframe, funding and environmental impact, and are provided with the detailed scoring in the section called List of Action Recommendations by Priority.

Detailed Progress and Recommendations

The following chart assesses progress made, and lists recommended actions to meet the 57 strategies listed in the Sustainability Action Plan, determined by the Louisville Sustainability Advisory Board and approved by the City Council in November 2016.

Below is the amount of progress that has been made to date since the publication of the SAP:

- 26% of the strategies have made High Progress (4).
- 30% of the strategies have made Partial Progress (3).
- 28% of the strategies have made Low Progress (2).
- 16% of the strategies have made No Progress (1).

Progress Scale System:

- **(4) High Progress** - Strategy has been met and/or is ongoing
- **(3) Partial Progress** – Strategy is in advanced stages
- **(2) Low Progress** – Strategy is in beginning stages
- **(1) No Progress** – No planning or action to date

The analysis below summarizes progress made, input from stakeholders, as well as recommended action items that could be reasonably completed within a 2-year timeframe.

Note that the strategies appear as they appeared in the 2016 Sustainability Action Plan, as approved by Council. Recommendations for edits to the strategies directly will be provided to the LSAB for consideration in a future revision of the Louisville Sustainability Action Plan.

Climate & Energy

#	Strategy	Progress	Notes	Recommended Action(s)
	Internal Target 1: Move towards carbon neutrality for all City operations			
1	CE-IT1S1: Update inventory of greenhouse gas (GHG) production	4	Boulder County has completed an updated 2016 Greenhouse Gas (GHG) Inventory for the entire county, by municipality. The City of Louisville worked with the county's consulting firm to provide all requested information to complete this study to the county's consulting firm. The county performed this	• Once the County Commissioners have approved and adopted the 2016 GHG inventory and the results have been reported

			inventory last in 2011 and may perform another inventory in 2021. In addition, the City of Louisville performed an additional GHG Inventory for the City in 2012, through the University of Minnesota.		publicly, the Council should determine a frequency for subsequent inventories.
2	CE-IT1S2: Set new goals for GHG reductions	2	In the 2017 Louisville Energy Action Plan, the City made a goal to reduce total community-wide energy use by 1% annually, which could result in an 11% reduction over the 2015 baseline by 2027. In addition, Louisville's City Council advanced its commitment to a healthy and sustainable community by voting to adopt Resolution 34-2017 in support of the Paris Climate Agreement. While the above actions both support a goal to reduce Greenhouse Gas emissions and further the goal to reduce energy usage through energy efficiency (EE) and renewable energy (RE) in the Energy sector, they do not specifically define community-wide near- or long-term GHG emissions reduction targets for the City, taking into account Transportation, Water, Waste, or Local Food and Agriculture. An example of a strong target goal would be: Reduce community-wide GHG emissions by 5% by 2022 (5 yrs), and by 26% by 2037 (20 years). A strong target goal can likely be met with the natural progression of technology, continued support from staff and council through purchasing decisions and actions made in favor of EE and RE, and with support from a variety of partners (Boulder County EnergySmart, Partners for a Clean Environment (PACE), Xcel Energy, etc.) under the existing Louisville Energy Stars brand. All departments have been queried as to successful actions that have been taken and that may be taken. The likelihood of successful residential and business participation will need to be weighed into these goals. City Council's input and approval is critical. While there is no penalty for failure to meet the goals set forward, the goals themselves advance and inform outreach and initiatives.		• Determine community-wide near- and long-term GHG emissions reduction targets, to be approved by City Council.
3	CE-IT1S3: Purchase lowest fuel-use vehicles practical for the City fleet.	2	The City purchased a Nissan Leaf in 2016. Additional electric vehicles similar in function to the Nissan Leaf (~$30,000) will likely exceed the current budget for most replacement vehicles in up-front purchase cost. Partial grant funding is likely available to address this gap. Current grant opportunities through RAQC, for example, will fund 80% up to the following set of maximums:		• Determine with the Police Department whether they would like to purchase an electric vehicle/EVSE in 2018. If yes, then a grant application should be made in Q1 2018.

DRAFT

			• Electric Vehicle: the incremental cost differential between an EV and the comparable gasoline vehicle up to $8,260 • Level 2, Single Port Station: $3,260 • Level 2, Dual Port Station: $6,260 • Level 3, Single Connection Standard Station: $13,000 • Level 3, Multiple Connection Standard Station: $16,000 Most likely immediate vehicle need: The Police Department has identified one vehicle (non-patrol) that will be up for replacement in 2018 and would like to look into the possibility of purchasing an electric vehicle, as well as a potential EV station for the department. Based on current offerings through RAQC, it is likely that there will be an appropriate grant to provide partial funding at the appropriate time. In addition, vehicles are being designed which would be appropriate for patrol fleet in which the department chief has expressed interest, for example the 2019 Ford Police Responder Hybrid Sedan. In addition, the Facilities Manager has suggested that the City could greatly improve emission output by exploring electric lawn mowing equipment. Currently, several options exist for riding tractor mowers and with performance ratings on par with gas engines, these should not be ignored. Electric riding mowers are generally in the $2500 range (~$1000-$1500 more than a gas mower), but grants do exist to offset the price difference. The RAQC grant, for example, pays for 80% of the cost difference between an electric vehicle and a gas vehicle. Benefits to an electric mower would be noise pollution, as well as a significant reduction in GHG emissions. Also, the City Manager's Office is planning to apply for a grant to install an electric vehicle charging station (EVSE) at the rec center in 2018. A plan is being discussed to explore future charging stations at City facilities. Additionally, it is notable that the City has done extensive work to evaluate a compressed natural gas (CNG) station.	• Perform analysis on vehicle replacements (including road vehicles and riding tractor mowers) on a case-by-case basis, with a preference toward electric and lower emission vehicles, as appropriate for use. • Apply for a RAQC grant to install an electric vehicle charging station (EVSE) at the Recreation Center in 2018.
4	CE-IT1S4: Develop conversion plan for City vehicle fleet to implement new vehicle technologies as they become	3	Public Works and the City Manager's Office have performed an analysis of what it would cost to replace current fleet vehicles and have informally agreed on the following assumptions: 1) It is generally desired that standard fleet vehicles should be upgraded to electric, hybrid, and alternative fuel vehicles	• Formalize conversion plan for City vehicles with new technologies. The City Manager's Office should work in tandem with Public Works

	available for testing and use.		over time, as appropriate, 2) It is not cost effective to make fleet replacements without an immediate need, 3) Not all vehicles would fulfill their function requirements as electric or alternative vehicles with the current technology available, and 4) technology and cost of alternative fuel vehicles is expected to improve over the next few years. Therefore, analysis should be performed on a case-by-case basis as vehicles need to be replaced to determine cost-effectiveness and appropriateness of use, as well as technology advances and funding opportunities, with a strong leaning toward electric, hybrid, and alternative fuel vehicles where possible. This plan has been generally agreed on verbally, but could be drafted as policy to be added into an existing purchasing policy.	to meet this objective, with input from other affected departments, as necessary.
5	CE-IT1S5: Implement controls and policies to limit idling of City vehicles.	1	Based on department interview feedback, any adopted policy to limit idling of City vehicles would need to consider the situation (e.g. in extreme heat or cold, should car should be left idling for comfort?). Even so, it is generally agreed by interviewees that more could be done by staff drivers. It should be noted that some actions have been taken by the city to reduce community-wide idling: • In coordination with DRCOG, the City assisted to complete corridor timing improvements to reduce vehicle delay/idling/emissions. • In coordination with Superior, Louisville led the initiative to build the Diverging Diamond Interchange (DDI), which saved more delay/idling/emissions on the US 36 BRT route than the previous US 36 RTD Queue Jump project was achieving. Note: Clarification is needed by what is meant by the "controls" to be implemented in this strategy.	• Create a simple awareness campaign addressing the reduction of idling in City vehicles and determine if an official policy is appropriate. Staff may be educated about vehicle idling by both email and through general staff-wide sustainability training.
6	CE-IT1S6: Install LED traffic signals.	4	Nearly all traffic lights in Louisville have been converted to LED.	• None. Project is effectively complete.
	Internal Target 2: Move Toward Carbon Neutrality for City Buildings			
7	CE-IT2S1: Aim for all eligible existing City buildings be benchmarked using the ENERGY STAR performance standards. For ENERGY STAR	3	The Facilities Manager reports that an attempt has been made within the last year to benchmark City buildings using Energy Star, with mixed results. Energy Star benchmarks energy usage (i.e. energy data from Xcel can be downloaded into a portfolio over time) and compares it to other buildings in the area. If a building is in the top 25% in efficiency comparatively, then it is considered to	• Explore whether the Library, Police Department, and Recreation center might be usefully be measured through Energy Star. • Update the Energy Star data on

eligible buildings, a strategy and costs will be developed for energy efficiency improvements.		be an Energy Star building. Challenges with the City facilities include the lack of availability of relevant templates through the Energy Star interface. For example, the library at face value seemed like it would be a good building to benchmark with Energy Star. When data was entered into the application, however, the presence of a parking garage under the building proved problematic for the assessment. Similar challenges exist with the Recreation Center, as an "Office Building" template can't be filled out, and a Rec Center has many features that a normal office building would not have (i.e. swimming pool, showers). Challenges exist in tracking the Police Department in comparison to other similar buildings in that the courthouse is attached. It functions as two separate buildings, with different hours. The Golf Course, too, is not a standard facility with standard energy usage needs. Still, the Facilities Manager thinks the following buildings may be able to be measured with some creativity, as long as certain data sets are removed to even out the comparison baselines: • Library (separate parking garage data) • City Hall (This was last measured through Energy Star at 60% and adjustments have been worked on.) • Rec Center (mechanism unknown) • PD (separate courthouse energy data) In addition, for facilities not able to be measured by EnergyStar, upgrades to enhance efficiency should also be explored. For example, last year Xcel replaced 677 cobra head streetlights with LED. The City still has approximately 1,200 non-cobra head streetlights to replace in order to reduce energy consumption. This project does not directly address this or any other strategy included in the SAP, but should be added as an additional strategy to reduce energy usage in city facilities going forward.	City Hall and any other buildings that may be quantified in this way on an annual basis. • Develop strategy and costs for energy efficiency improvements for buildings and facilities on a case-by-case basis. • Develop strategy and costs for replacement and/or evaluation of remaining non-cobra head streetlights.

| 8 | CE-IT2S2: Expand solar and renewable energy purchases for City buildings | 3 | The City currently has 1178 kW of solar capacity online to use at the City's municipal facilities, with another 1000 kW purchased that is not yet functional. When that solar array comes online the end of 2018 the resulting 2.178 MW will enable the City to cover over 50% of its municipal electric demand with renewable energy.

The City is in the beginning stages of exploring the possibility of further alternative energy purchases. Until the most recent purchases come online and we can determine what eligible metered electricity we have left, it is not possible to make a useful comparison between available renewable avenues for the remainder of the City's energy needs.

Going forward, the City has several potential options to offset its remaining energy needs to renewable sources:

1) **Solar garden in Louisville for municipal / residential use:** Early conversations with a nonprofit solar garden company would not only offer the City another opportunity to further offset its own energy load, but would also allow low income residents an opportunity to participate in solar credits at a significantly reduced monthly energy cost. The challenges are: availability of city land, length of time to develop, ROI after staff time and current market conditions are considered.
2) **Solar garden offsite for municipal use only:** Early conversations with a for-profit company indicates that solar capacity would be available within 12 months, should the City wish to make an agreement for another agreement similar to the current Power Purchase Agreements in place. The challenge is ROI after staff time and current market conditions are considered, as well as the availability of eligible energy streams.
3) **Wind power:** Considering the City has already offloaded its peak energy use to solar (soon to be up to 50%), it may be as or more cost effective to elect wind source for some or all of the remaining facility energy needs. This would allow the City to quickly transition the rest of its energy source to renewables. While it would cost a little more per watt than what the City currently pays, it may have a long-term ROI comparable to the solar agreements without utilizing and stretching staff resources.
4) **Upcoming Solar Rewards Program through Xcel:** Xcel is preparing to roll out a large solar campaign for residential and commercial (separately) in 2018. | • Explore and compare opportunities to make a plan to transition the remaining 50% of municipal facilities' energy needs to renewable sources. |

			The idea is mostly familiar - the customer would buy in at a set rate for 5+ years, but the customer would also get the recs and deal directly with Xcel, rather than a third party. Like wind source, the rate would be slightly higher than the existing rate/watt, but it would be set, hopefully offsetting inflation expectations at least at some level. The customer would be tapping into an enormous solar pool that they are setting up, not tied to a specific solar garden. According to the Director of Public Works, we need to also be thinking in relation to renewables what our strategy is in the long term. He points out that while the City can claim a certain percent renewable now at certain cost due to current agreements, in 15-20 years those agreements run out. We will be left with solar equipment we own, but it is uncertain what their production efficiency will be and/or replacement costs. If costs don't change we will be facing a renewal cost possibly without credits that would require an investment of $50-150k per year to renew and have those assets over a new lifespan. We may need to think in a larger scope about creating a "Sustainability Utility" that considers these costs and establishes a long term funding source and financial plan that can manage finances over a longer term view. The City's biggest risk right now is not today but what happens in 15 years with the renewable portfolio.	
9	CE-IT2S3: Adopt building codes & policies that promote energy efficiency in new and existing buildings.	2	According to the Planning and Building department, we should first evaluate whether either of the newer code versions would provide energy efficiency benefits for new construction, and then evaluate whether we want to adopt those.	• Guidelines favoring energy efficiency should be included in the new PUD as potential "waiver criteria". • Continue to evaluate the adoption of updated building codes to the advancement of energy efficiency in new buildings, every three years as appropriate.
10	CE-IT2S4: Aim to achieve 80%	3	The new Recreation Center is on course to earn between 60-79 points (gold	• Continue to seek 60-79 points

	of all points within the Energy & Atmosphere section of the USGBC LEED for new City building construction.		standard) under the Energy & Atmosphere section of the USGBC LEED rating system. Due to cost, however, the City will not seek formal certification. It is worth noting that interviews with the Planning Department revealed that the LEED system, while popular, may not be the ideal rating system, with suggestions that the Green Globe system may be better suited to the City's needs. For the LEED system to be aspired toward as a City policy, this will require a more thorough discussion involving the Planning Department. Note: The LEED system is not based on percentages, but rather on a point system. Interviews reveal that the intention with the "80%" strategy was to represent a gold standard.	(gold standard) under the Energy & Atmosphere section of the USGBC LEED rating system (or equivalent system) for new municipal buildings, including the new Recreation Center, on a case-by-case basis, as appropriate. • If seeking a LEED Gold Standard for new municipal buildings is desired as a policy, the Planning Department should make a recommendation to the City Council for potential formalization through resolution.
11	CE-IT2S5: Perform energy audits of City facilities.	4	The Facilities Manager has been regularly tracking the BTUs/ft2 since 2014 and has been making significant energy improvements as a result. Additionally, the Facilities Manager worked with Xcel in Fall 2016 to perform energy audits on City facilities with mixed results. He reports that they were not as thorough or as accurate as he had hoped they would be. Xcel is currently offering thorough building audits for $7500/$2500.	• Continue to quantify energy usage data annually by BTU/ft2, performing regular audits of municipal facilities.
	External Target 1: Increase energy efficiency and renewable energy in commercial and residential sectors			
12	CE-ET1S1: Promote and use available EnergySmart efficiency services for residents.	4	Boulder County's EnergySmart offers energy efficiency and renewable energy services and funding to residents and businesses to improve their bottom line. As a municipality, the City of Louisville is not eligible to "use" EnergySmart services. Rather, the City acts as an outreach vehicle for EnergySmart services. Current EnergySmart offerings include energy audits, solar rebates, energy efficiency discounts and low interest energy loans. The City of Louisville has recently stepped up its promotion of EnergySmart efficiency services via the City website and other channels as appropriate, including a September water bill insert and a school kit insert scheduled for fall	• Continue to work closely with Boulder County Sustainability office to promote available EnergySmart efficiency services to Louisville's residents and businesses through both the City Manager's Office and Planning and Building. • Host a community outreach session to address energy rebates

DRAFT

			2017. EnergySmart is an active partner to Louisville in Xcel Energy's Partners in Energy program and is additionally promoted by the City under the Louisville Energy Stars logo. Partners for a Clean Environment (PACE) also actively promotes EnergySmart through its Louisville business outreach, in coordination with the City. The Planning Department has expressed a desire to be better equipped to perform outreach for EnergySmart services.	available to Louisville residents.
13	CE-ET1S2: Promote and use Partners for a Clean Environment (PACE) sustainability services for businesses, and collaborate on a green business recognition program.	4	Over the last year, the City has promoted Partners for a Clean Environment (PACE) services via its website and through its Green Business Recognition program, in which PACE plays a key role. Affiliated with Boulder County, PACE is also an active partner to Louisville through Xcel Energy's Partners in Energy program. PACE also works through other organizations, such as with Western Disposal, the CTC Building Owner's Association, and the Louisville Chamber of Commerce to reach Louisville businesses. The City strongly encourages and promotes PACE for its business outreach services, which includes "free expert advisor services, incentives and a certification program to help businesses measure and gain recognition for their successful progress in energy, waste, water and transportation. PACE Partners are businesses committed to supporting a strong economy, implementing environmentally sustainable practices and becoming leaders in our community." It should be noted that PACE also actively promotes Boulder County EnergySmart services.	• Continue to promote Partners for a Clean Environment (PACE) to help businesses reduce energy and costs, and make progress in energy, waste, water and transportation improvements.
14	CE-ET1S3: Provide and develop information for residents and businesses on conservation and rebate programs.	4	The City has significantly stepped up its promotion of energy conservation and rebate programs, most notably as of May 2016 when the City of Louisville signed a Memorandum of Understanding to participate in Xcel Energy's Partners in Energy offering for two years. Through a facilitated engagement process in partnership with Xcel Energy, the City developed the Louisville Energy Action Plan, as well as the Louisville Energy Stars brand for programs that promote energy efficiency and support the City's Sustainability Action Plan. As an outcome of this plan, the City's goal is to reduce total energy use by 1% annually, which could result in reducing total energy use by 11% over the 2015 baseline by 2027. Conservation and rebate programs that accomplish the City's goals developed in the Louisville Energy Action Plan are advertised under the Louisville Energy Stars logo.	• Continue to use the Energy Stars logo, developed in conjunction with Xcel Energy's Partners in Energy program, to promote and develop information for residents and businesses on conservation and rebate programs for energy efficiency and renewable energy.

DRAFT

			The City of Louisville's Energy Stars program developed in partnership with Xcel Energy's Partners in Energy encourages energy efficiency and renewable energy, leverages resources and benefits the economic vitality, environmental health and well-being of the community through the following strategies: • Large Business Outreach • Grow the Green Business Program • Increase Residential Participation in Priority Areas • City Showcase - Integrate Energy Efficiency in City Facilities • City Showcase - Share Information Programs are promoted on the website, in newsletters and other outreach materials, as well as through programs hosted at the Library. EnergySmart and PACE services play a key role in the strategy, among others. The newly hired Sustainability Specialist also ensures information about these programs are updated and provided for public use. It should be noted that the Planning Department has expressed a desire to be better equipped to perform improved outreach for conservation and rebate services.	
15	ET1S4: Adopt building codes & policies that promote energy efficiency in new and existing buildings.	2	This strategy seems to duplicate strategy IT2S3 above.	• None. Strategy is covered under strategy IT2S3.
16	ET1S5: Support utility demand-side management programs and renewable power supply initiatives.	3	Working as a partner with Xcel Energy in Xcel Energy's Partners in Energy Program, the City is actively promoting DSM programs and renewable initiatives through web outreach and community sessions. For example, the Louisville Sustainability Series Session #1 (September 2017)was on the topic of "Energy & Money." Xcel Energy and Energy Smart presented their programs to 41 attendees. Both the presentation and links to resources have been published on the City's site. In addition, the City is working in tandem with the City of Lafayette to host a free 3-hour solar workshop on October 21, 2017. ."[Support] renewable power supply initiatives": First, by "power supply," it is assumed this is referring to the "energy source" (i.e. solar, wind). Second, it is unclear what is meant by "support." Are funds or management being suggested? If what is meant is an intention to "promote," then: The City is currently promoting renewable power source initiatives through the	• None. This strategy appears to be covered under ET1S3.

			promotion of Boulder County's EnergySmart. Furthermore, the City is beginning to explore a way to support an affordable renewable power sources.	
17	ET1S6: Promote low-interest financing for residents and businesses to complete energy efficiency upgrades & install renewable energy.	4	The City is currently promoting EnergySmart's low interest energy loan program in conjunction with Elevations Credit Union on the website and through outreach materials, such as the water bill insert in September 2017. This was also promoted through the Louisville Sustainability Series Session #1: Energy & Money focused on energy savings held at the Library. This strategy is fully dependent on EnergySmart offerings, as the City has no current capacity or mechanism to develop such a program with a lender.	• None. Strategy is covered under ET1S1.

Water

	Internal Target 1: Reduce water usage and improve efficiency of water use with City buildings			
18	W-IT1S1: Benchmark all City buildings' indoor water use.	4	The Finance department has provided the Public Works Department indoor water use information for all City buildings for the past three years. Public Works regularly monitors usage. A further step could be to transform the information into a dashboard and provide it to the public via the website, if desired.	• Public Works and the City Manager's Office should discuss what it would like to do with the water usage information provided (e.g. for public or internal usage), as well as how to continue benchmarking on an ongoing basis.
19	W-IT1S2: Replace or retrofit City building plumbing fixtures to meet or exceed current code requirements	3	Over the past few years, the Public Works Department has worked hard to replace or retrofit City plumbing fixtures. For example, aerator devices have been installed on City building faucets to reduce water usage and many toilets already are 1.6 gallons. Recently, several urinals at the library were replaced for 1/8 gallon flushes. It should be noted that there are still replacements to be made, but this is ongoing, as is appropriate, needed, and within budget. According to the Facilities Manager, an audit would be required and could be reasonably accomplished to determine a more thorough replacement schedule.	• Continue to replace or retrofit City building plumbing fixtures to meet or exceed current code, as appropriate. • Perform an audit on City plumbing fixtures to determine what remains to be done and create an action plan.
20	W-IT1S3: Achieve 80% of all the new construction water efficiency points in the USGBC LEED for water use reduction and rain water	3	The new Recreation Center is being designed to earn between 60-79 points (gold standard) under the Water Use Reduction & Rain Water Management section of the USGBC LEED rating system. Due to cost, however, the City will not seek formal certification. The efficiency measures are expected to yield significant water usage savings over the life of the building, which would affect	• Continue to seek 60-79 points under the Indoor Water Use and Rainwater Management sections of the USGBC LEED rating system (or equivalent system) for new

	management, applicable to specific type of building.		water production costs by the City. See CE-IT2S4 about potentially creating a City policy to address environmental standards.	buildings, including the new Recreation Center, on a case-by-case basis.
21	W-IT1S4: Manage and upgrade infrastructure to reduce leaks in the system.	4	The Public Works Department habitually checks for leaks in the metering system, performing an audit annually on a different third of the system. This year, they will be performing a regularly scheduled complete audit. Known leaks are addressed within 24 hours. Leaks are costly and usually noticeable, often causing larger infrastructure problems (i.e. sinkholes in pavement). There are currently no known leaks in the system.	• Continue to manage and upgrade infrastructure to reduce leaks in the water metering system, including the performance of scheduled annual audits.
	Internal Target 2: Improve efficiency of water use on Open Space and City landscaping			
22	W-IT2S1: Create a community-wide green infrastructure plan to capture and infiltrate rain water where it falls, thus reducing storm water runoff.	1	This requires a planning process as part of a Stormwater Master Plan. According to one member of the LSAB, this strategy is "complicated due to 'rain barrel' laws in Colorado. The goal with this strategy would be to promote less stormwater runoff directly from pavement to the streams (thus reducing pollution in stormwater) and to have areas designed with plant selection and drainage to allow for reduced irrigation. Basically, rather than treating stormwater as a nuisance that needs to be directed away from City properties or new developments, some water would be put to use or allowed to infiltrate." Interviews with Public Works reveal that a Stormwater Master Plan is on the radar. Unknown funding required at this time. $150-300K could potentially be largely funded (75%) through Community Development Block Grants (CDBG).	• Plans for a Stormwater Master Plan should be further developed. The desire to create a community-wide green infrastructure plan to capture and infiltrate rain water should be bookmarked for discussion for incorporation.
23	W-IT2S2: Encourage quality drought resistant landscaping through the development review process.	3	According to the Parks and Recreation Department, the City utilizes xeric and low water plant material where feasible and/or desired. There is a horticulturalist on staff and additional support staff that keeps up the plant material around town. This horticulturist is consulted on new-build projects as part of the process. In addition, the Planning and Building Department states that it plans to include language encouraging quality drought resistant landscaping in the new design guidelines.	• Continue to watch for opportunities to implement drought resistant landscape. • The Planning and Building Department should include language encouraging quality drought resistant landscaping in the new design guidelines.

	Internal Target 3: Minimize use of treated water for non-potable functions			
24	W-IT3S1: Use non-drinking water systems to meet residential, industrial, and agricultural needs when feasible.	3	The City uses the raw water it can through water rights, as well as re-use water, to irrigate the golf course, the sports complex, Community Park, etc. This is because these locations lie along current pipelines designated for reuse water. There has been discussion and some planning for expanding the use of re-use water system to other areas such as Heritage Park and Miners Park but this would involve a large infrastructure build-out.	• Continue to watch for opportunities to use non-potable water to meet needs when feasible.
	Internal Target 4: Improve and maintain water quality			
25	W-IT4S1: Continue to update equipment and procedure manuals related to water use, wastewater and storm water treatment and incorporate methods to promote sustainability & limit environmental impacts.	3	The Wastewater treatment plant has been fully replaced and procedures streamlined. Updating equipment and procedures in general is an ongoing process in response to noted inefficiencies, as audits are regularly performed.	• Continue to update equipment and procedures to promote sustainability & limit environmental impacts.
26	W-IT4S2: Aim to have Coal Creek removed from State's list of impaired or polluted waters.	1	It is believed that most of the pollution in the creek is caused from agricultural/raw water runoff. The desire and plan to remove Coal Creek from the State's list of impaired or polluted waters should therefore be included in a Stormwater Master Plan.	• Add the desire and plan to remove Coal Creek from the list of polluted waters to the future Stormwater Master Plan.
	External Target 1: Expand water conservation education for City residents and businesses			
27	W-ET1S1: Conduct a gap analysis of the water efficiency tools, resources and incentives for residents and businesses.	1	While a number of resources exist on the City's website, a gap analysis could be developed to better identify gaps to help inform outreach initiatives.	• Conduct a gap analysis for community resources for water efficiency tools, to be maintained annually to identify gaps and inform outreach initiatives.
28	W-ET1S2: Promote and continue to use local water quality programs including: Keep it Clean; Boulder Area Sustainability Information Network (BASIN); PACE; Center for ReSource	4	The City and LSAB have worked together to ensure that relevant programs that promote water conservation and water quality are promoted via the City's website. Water bill inserts are another great method of outreach to the community and should continue to be used to offer resources to water customers.	• Continue to promote local water conservation and water quality programs (e.g. Keep It Clean Partnership, Center for Resource Conservation) to Louisville residents and businesses on the City's website, via community

	Conservation; Slow the Flow; and EnergySmart.			alerts, through the City's water bill inserts and any other appropriate channel.
29	W-ET1S3: Develop, market to the community, and update Louisville specific plans that address water conservation and quality.	3	As part of the Louisville Sustainability Series, a community outreach session is being planned to address Louisville specific plans that address water conservation and quality. This session is scheduled for November 29, 2017 at the Louisville Library. In addition, resources currently exist on the City's Sustainability page on the website. See W-ET1S2 for more.	• Host a community outreach session to address Louisville specific plans that address water conservation and quality.

Transportation

	Internal Target 1: Develop balanced system that serves the entire City.			
30	T-IT1S1: Adopt Transportation Master Plan that identifies alternative means so citizens of all ages can safely and comfortably walk or ride a bike.	1	A meeting was held in July 2017 to determine the timeframe and feasibility of a Transportation Master Plan. It was determined that it should ideally begin in early 2018. Funding is needed. ($50,000 - $100,000)	• Create a Transportation Master Plan to define and analyze transportation priorities. Ensure that it includes the identification of alternative modes of transportation, including multi-modal access points and transit pathways, so citizens of all ages can safely and comfortably walk or ride a bike.
31	T-IT1S2: Invest in bicycle, pedestrian and transit options, which provide safe, pleasant non-vehicle means of accessing schools, commercial areas, recreational facilities and municipal locations.	2	According to one member of LSAB, the primary goal of this strategy is to reduce the number of miles driven and reduce fossil fuel us; resulting in a reduction in SOV and GHG emissions in the city. The secondary goal is to encourage citizens to walk or bike to promote a healthy lifestyle. To achieve those goals, this strategy calls for creation of Transit Pathways to mass transit connectors, commerce areas, schools, and city facilities (rec	• Determine what the City could do, if anything, to help Commuting Solutions develop sponsors for Bike Share. • Consider the installation a bike repair station outside of the library.

<table>
<tr><td></td><td></td><td>

center library, etc.) through a network of bike only lanes and enhanced street design (wide sidewalks, traffic quieted streets, trees,

The Transit Pathway system was envisioned to be separate, but complimentary, to the Louisville's existing recreational trails and 32 miles of cycling paths as it would serve a distinctly different purpose.

To be successful, this strategy requires committed support from the Planning Department and City Council to ensure that Transit Path development is given weight during development/renovation projects. It also requires input and support from Public Works for installation of a safe network of Transit Paths on city streets, paths and enhanced street design.

In addition:
- New bike lanes have been recently installed.
- One new underpass project has recently been completed, with another planned.
- A bike cage is being installed at the Highway 36 overpass.
- The Police Department has two bikes to use internally.
- A preliminary First and Final Mile study has been initiated.

The Transportation Master Plan would be extremely useful in making a more thorough study of outstanding needs, desires and feasibility of transportation priorities. Recommendations are included under strategy T-IT1S1.

</td><td></td></tr>
<tr><td></td><td colspan="3">Internal Target 2: Reduce SOV and GHG emissions and cost impact for City staff</td></tr>
</table>

32	T-IT2S1: Offer incentives to City staff such as: bus / carpool / vanpool subsidies, Bike-to-Work incentives, bike parking and shower facilities.	2	Currently, there is bike parking at the City Hall. In addition, one shower exists in City Hall, with more at the Recreational Center, but not in other facilities. Interviews with City Hall staff who utilize the CH shower, however, state that it is "not welcoming or inviting" as the room shares a space with paint supplies. A study would be required as to whether these would be used enough to justify cost of installment. Preliminary conversations with Human Resources staff indicate it may be possible to add bike-to-work in the Employee Wellness program. To implement this, it will be important to take into account staff members who live in areas where alternative modes of transportation are not reasonable, and to be inclusive of people with differing mobilities. Therefore, this would need to be one of multiple alternatives eligible for incentives. Other incentives could include the provision of an EcoPass to employees. Unfortunately, according to Commuting Solutions, this would require the provision to all employees equitably, and not just to those who say they would use the pass. With 180 employees, this could be expected to be a significant benefit cost. This would, however, be a significant step toward setting an example for the Louisville community. Commuting Solutions is currently exploring this cost further so the City can make an informed decision. It should be noted that this service has been offered by the City in the past but was discontinued due to low usage. Also, Louisville supported RTD's Ride the Bus campaign on September 28, 2017 by manning 4 Louisville bus stops with incentives. In addition, Boulder County provided a grant to preload 6,000 new MyRide pre-loaded bus passes to increase riders on the bus and to reduce single passenger vehicles on the road. Sign-up events were in July/August 2017 at the Library.	• Explore whether the Human Resources Department could add bike-to-work as an incentive in the Employee Wellness program and implement, if possible. • Determine if any City facilities require further bike racks. • Make a plan regarding upgrades or installation of shower facilities for staff. • Continue to investigate ways for the City to provide relevant or feasible transportation benefits. transportation benefits.
33	T-IT2S2: Develop transportation solutions with neighboring communities to establish efficient connections in regional transit.	2	Ultimately, this may be more thoroughly investigated through the development of the Transportation Master Plan, but there are several recent and current projects that address this strategy: • An E-bike ordinance was recently passed, allowing e-bikes on Louisville bike paths. E-bikes help riders attain farther distances with less effort, both within and between communities.	• Continue to discuss with RTD routes between neighboring municipalities and Louisville to improve regional and local transit service. • Develop alternative transportation

			• The Louisville Call-n-Ride program (RTD) allows residents to call for a ride between communities within Louisville. • The RTD system allows for travel between communities. (The City Manager's Office is beginning to discuss a new route serving CTC with RTD.) • RTD initiated a Ride the Bus campaign and Boulder County has provided a grant to advertise MyRide pre-loaded bus passes, both of which Louisville supported through staff, outreach, venue and funds. • A new bike shelter/cage is being installed on the Hwy 36 overpass to improve non-vehicle access to the bus stop and encourage transportation between communities. • The City Manager's Office is beginning to discuss new routes with RTD, and there is a future bus service being considered from the CTC to destination points within the area. • Bike Share (Zagster) received funding in May 2017. It will need sponsors, but it should be up and running in 6-12 months. • The Call-N-Ride now serves the Louisville Recreation Center from the Superior side. • In coordination with DRCOG, the City of Louisville and Town of Superior coordinated corridor timing improvements to reduce vehicle delay/idling/emissions. • In coordination with Superior, Louisville led the initiative to build the DDI, which saved more delay/idling/emissions on the US 36 BRT route than the previous US 36 RTD Queue Jump project was achieving. • In addition, Via offers transportation services between communities. Additionally, FastTracks, the passenger train system that is currently operating for a short distance in Denver, will eventually be built out to Louisville and beyond (Longmont). It is not scheduled to be implemented in Louisville, however, until 2040. This is an endeavor the City should continue to pursue and attempt to move through the legislative process more quickly on a state and federal level.	solutions between communities into the future Transportation Master Plan. • Continue to explore an RTD bus route serving the CTC/Major employment center. • Continue to work with Commuting Solutions to move the FastTracks project forward, as well as other multi-modal projects.
	External Target 1: Support telecommunication efforts			
34	T-ET1S1: Support upgrading of communication infrastructure that would	3	The Library reports that they have recently upgraded their wifi network (in 2017) by increasing internal access points. It should be noted that this is an important community outreach in that it allows people of all vulnerabilities to	• If City Broadband is approved by vote, then move forward with streamlining and improving City

	improve internet speeds.		access the internet for free, thus leveling the playing field for education, telecommuting opportunities, and even learning through play. It also provides a safe place for teenagers to be who may not otherwise have any place to go, or who just want to do what any teenager does, but can't due to lack of home access. Currently, the Louisville City Council has approved putting City broadband on the November 2017 ballot. This would potentially allow the City to procure broadband services or partner in a way that would allow the City to upgrade/streamline its municipal communication capacity. This would primarily be for internal use, but may have some opportunities to provide broadband to the public in public buildings. The City Hall also currently provides free wifi to the public it serves.	facilities' broadband capacity where relevant. • Work to develop a more formal telecommuting policy for City employees.
	External Target 2: Reduce SOV and GHG emissions			
35	T-ET2S1: Explore programs to fund and implement RTD EcoPass for City residents and employees.	2	According to the Deputy City Manager, this has been utilized in the past and was discontinued due to lack of participation. Funding needs are high and do not readily exist. See above (T-IT2S1) for further information.	• None. Addressed above T-IT2S1.
36	T-ET2S2: Develop bike maps and way finding signage	2	Public Works has indicated a willingness to develop a map for residents showing all non-vehicle access points. They are currently developing an ADA parking map. In addition, the Planning department has indicated that a plan to put Zagster bike stations between communities is in progress, but not yet funded. More research needs to be conducted regarding "First and Final Mile" connections, which will be considered as part of the Transportation Master Plan. Boulder County released a 2017 Bike Map this year with detailed routes all over the county available for public use. Commuting Solutions, also, has a pocket map showing bike access points across four communities, including Louisville.	• Develop a Louisville-specific map for residents showing all non-vehicle access points • Explore what the City can/should do to expand First and Final Mile program through implementation of the Transportation Master Plan.
37	T-ET2S3: Incentivize businesses to include electric vehicle charging stations.	2	The Planning Department reported that businesses could be incentivized to build out for or provide electric vehicles supply equipment (EVSE) as potential "waiver" currency when negotiating for particular waivers (i.e. offsets). The addition of EVSE with new build projects could be added in a guideline list in the current PUD project.	• Add EVSE (electric charge stations) build-out into a guideline list in the current PUD project • Provide links on the website for

			Additionally, Partners for a Clean Environment (PACE) currently can help businesses with advice and/or rebate options for implementing EVSE stations, but the City does not currently advertise this particular service from PACE on the website. Grants exist through the Regional Air Quality Council (RAQC) which help not-for-profit entities, such as local governments, school districts and state agencies. Apartment/condominium complexes and businesses that own multi-vehicle parking facilities for fleet, public or guest / visitor are also eligible for EVSE funding. Local companies also exist that can help companies navigate rebates and the logistics of installing an EVSE. It should also be noted that the Mayor's decision to join to Climate Mayors and to sign onto the letter to the Governor was a powerful statement of support from Louisville for building out EVSE infrastructure in Colorado, since this is one of the Governor's commitments as a "Climate State." This grassroots push from Mayors and the Governor is expected to have an effect on funding opportunities for municipalities from the State.	information about rebates, grants, and services that would help incentivize businesses to install EVSE (electric charge stations). • Continue to support the Climate Mayors & States initiatives as a push for more funding for EVSE infrastructure within the municipality of Louisville, as well as between communities across the state and nation. • Consider adding EVSE (electric charge stations) build-out into a guideline list in the current PUD project.
38	T-ET2S4: Promote and use PACE sustainability services for businesses, and collaborate on a green business recognition program.	4	Over the last year, the City has promoted Partners for a Clean Environment (PACE) services via its website and through its Green Business Recognition program, in which PACE plays a key role. Affiliated with Boulder County, PACE also works through other organizations, such as the CTC Building Owners Association and the Louisville Chamber of Commerce, to promote transportation options for Louisville businesses to reduce the number of single occupancy vehicles (SOV) on the road. The City strongly encourages and promotes PACE for its business outreach services, which includes "free expert advisor services, incentives and a certification program to help businesses measure and gain recognition for their successful progress in energy, waste, water and transportation. PACE Partners are businesses committed to supporting a strong economy, implementing environmentally sustainable practices and becoming leaders in our community."	• Continue to promote Partners for a Clean Environment (PACE) to help businesses with transportation options with the aim of reducing the number of single occupancy vehicles on Louisville roads and between neighboring communities.
	External Target 2: Incorporate smart growth principles and walkable communities into land use			

DRAFT

39	T-ET3S1: Adopt programs to improve ease-of-use for the first and final mile of commuter pathways.	2	This strategy appears to repeat the intention in T-ET2S2 "Develop bike maps and way finding signage."	• None. Strategy addressed in T-ET2S2.
40	T-ET3S2: Improve walkability through crosswalks and safe school routes with BVSD partnerships.	3	Public Works reports that they work directly with BVSD whenever an issue arises and that there are no current outstanding issues that have been brought to their attention. The Planning and Building Department reports that there is room for improvement and that the city needs to continually work with all stakeholders.	• Continue to work directly with BVSD whenever an issue arises concerning crosswalks and safe school routes.

Waste

	Reduce production and increase landfill diversion			
41	Ws-IT1S1: Expand recycling programs to include hard to recycle materials (e.g. electronics and pharmaceuticals)	1	The City does not currently host a hard-to-recycle day for residents within Louisville. This is not a service that could be added as part of a contract with a residential hauler for door-to-door pick-ups, along with compost, recycling and waste. Funding would be required for this activity, likely between $3K-$5K per event. It is possible that this type of event could receive grant funding from the county (Zero Waste Grant / Sustainability Grant) or from Colorado Department of Health and Environment (CDPHE) through a Recycling Grant. Currently, residents may take hard-to-recycle materials to the Boulder Center for Hard to Recycle Materials (CHaRM) for a fee. The City also hosts two free branch collection days per month for woody debris only.	• Work to determine what a Hard-to-Recycle Day for Louisville would cost and explore whether the City wishes to either apply for a grant or has capacity to host one or two events annually.
42	Ws-IT1S2: Install triple bin (recyclable, compostable, trash) waste collection at City facilities and parks as practical	3	Most City facility buildings have at least one or more collections of triple bin waste bins. Parks do not have any options besides trash collection for the landfill. The Recreation Center's system is okay, but is undergoing renovation, so will need additional bins. The Police Department did have three bins in the break room area, but the compost bin has disappeared at the time of this	• An inventory should be taken of all parks and facilities to determine which facilities need bins for diversion (e.g. recycling or composting). An analysis of cost

| | | report. Restrooms in facilities may or may not compost. There is one public outdoor recycle bin in front of the City Hall. | should be made, as well as expected challenges and recommendations. |
| | | Louisville has 27 parks, of which none have triple bin systems installed. All waste accumulated in City parks is collected by staff and goes directly to the landfill. | • Apply for either a CDPHE Recycling grant or a Boulder County Zero Waste Grant at the end of 2017 (and going forward) for possible funding of new bins for parks or facilities and/or for funding of a composting service for dog waste at the City's dog parks. |

report. Restrooms in facilities may or may not compost. There is one public outdoor recycle bin in front of the City Hall.

Louisville has 27 parks, of which none have triple bin systems installed. All waste accumulated in City parks is collected by staff and goes directly to the landfill.

In order to implement a 3-bin system at all facilities and parks, an analysis would need to be performed to determine suitable locations and logistics (i.e. cross-contamination and staffing challenges). For parks, for example, it may be more useful to include one or more recycling bins, and not include compost bins, due to the high rate of cross-contamination and failure at public parks for this type of service (If composting is contaminated by non-compostable materials, haulers will add it all to the waste stream so as not to contaminate the compost cycle.) Education through staff training is highly recommended to help ensure maximum participation and better success for the triple bins currently being used in City facilities.

An interview with the Parks and Recreation Department revealed that one welcome way to divert a significant amount compostable materials from the park's waste stream is to explore a dog waste composting service at the City's dog park and/or open space. The Boulder County Sustainability Office has indicated that this would be within scope for a Zero Waste Grant.

In addition, the City should make every effort to not inadvertently cause residents to use single-use items. For example, a resident recently reported to the LSAB that a water fountain in a city park was not functional. He also reported that the bin next to the fountain was a waste can (landfill destined) overflowing with plastic water bottles. It is possible that upgrading fountains may have a mitigating impact on this waste stream.

An interview with the Parks and Rec Director revealed that many of the drinking fountain issues are more related to water pressure than with broken fountains. Even so, many of the city's fountains are aging and could use replacement. This would require an investigation into necessity and budget by the Parks and Rec Department.

			In addition, the Events Coordinator reports that composting facilities are lacking when hosting City events. While the waste collected is all compostable (utilizing compostable cups and utensils), there is not enough storage space in which to put the resulting compost waste. She suggests an upgrade to bin size (one or two 96 gallon rolling bins) in which to put event trash at City Services for later collection.	
43	Ws-IT1S3: Establish City purchasing guidelines that consider impact from product lifecycles.	2	A draft City Green Purchasing Guideline document is in the beginning stages of development. Establishing Green Purchasing Guidelines would be beneficial both financially and environmentally to City operations. Currently, Louisville City departments are free to order office supplies from their preferred office supplier, usually Source or Staples. Currently, much of the white copy and printer paper purchased by the City is 30% recycled content, but not all, depending on department. Many other office supplies purchases are not eco-friendly, even when an alternative exists at a competitive price. A recent analysis of office supplies purchased by the city from the two primary office supply companies reveal that done strategically, money could be saved through the replacement of non-recycled content products with recycled content products. This will be discussed more thoroughly when the policy is presented to council. Regardless, a more fundamental campaign is needed beyond the replacement of supplies to their more sustainable counterparts to actually reduce the use of paper. This would include a staff-wide cultural shift to utilize digital tools as much as possible, instead of paper. Examples of policies to encourage this shift could include the development of guidelines to not print onto paper items that may be read digitally and for staff to bring laptops or tablets to meetings, rather than to expect printouts, or to always use double sided printing when printing is necessary. Interviews with the various departments suggest that certain measures are in progress toward a digital shift. The Finance and IT Departments are developing a new ERP in order to prevent the need to print certain items that are needed by the Finance Department, which are then turned around and rescanned back into the system.	• Consider centralizing all purchases through one vendor to streamline eco-friendly product selection and to utilize competitive pricing through the setting up of contract items. If centralizing through one vendor is not desirable or possible, then continue current relationships, applying the Green Purchasing Policy to purchase decisions. • Adopt Green Purchasing Guidelines that promote eco-friendly products be purchased when there is a choice and the selection is not cost-prohibitive. These guidelines would continue to favor local purchases over eco-friendly purchases. • Develop a plan to shift City staff culture toward digital document usage, rather than print.

		The IT Department reports it has decommissioned more than half of the large copiers the City had in the last 4 years, and replaced existing copiers with far more efficient, energy smart versions. The Planning and Building Department, also, has begun to make a shift toward digital documents through the implementation of a new software review system. Even so, the IT Department says their new ERP will not solve all needs to print and return for scanning and the Planning and Building Department has expressed a strong desire to digitize far beyond what is currently in place. The Human Resources department, as well, has expressed a desire to provide tablets for interviewers during the interview process, rather than the provision of large paper packets, but do not currently have available tablets for this purpose. The systemic reduction of paper use across departments would very likely reduce copier/printer equipment needs significantly, providing further savings and offsets for any additional purchase of devices such as tablets or digital meeting aids, such as Smart TVs.	
	External - Develop educational programs to reduce business & residential waste		
44	Ws-ET1S1: Partner with local retailers to reduce use of non-recyclable, non-compostable, and non-reusable containers.	**2**	The City currently strongly encourages that all food containers used at Street Fair and City sponsored events by participating retailers are compostable. One significant way to address this strategy would be a potential partnership between the City and grocers and/or retailers to address plastic bag usage. The City could consider a campaign to recommend or encourage grocers and/or retailers to adopt a "bring your own bag" system, or to provide only paper bags for customers, which are both biodegradable and much more easily recyclable. For greater success, though, the City may want to evaluate an ordinance mandating use of a "bag fee" by grocers and/or retailers to encourage customers to bring their own bags. These systems have proven highly successful in many cities around the nation to reduce landfill waste generated by retail bags, with some areas in the US banning plastic bags outright. States and areas in the United States banning the use of plastic bags in retail stores include coastal North Carolina, much of San Francisco, and Portland. While Louisville's neighbor, the City of Boulder, has not banned use	• Consider an ordinance to implement a plastic bag fee at Louisville grocery and/or retail stores. • Consider an ordinance to require all Louisville businesses to recycle and compost, using the licensed hauler of their choice. • Consider making it a requirement that retailers participating in City Events use compostable food service products.

<table>
<tr><td colspan="5">of plastic bags by retailers, they have created a bag fee mandate in grocery stores only. The program has become well accepted, with shoppers sometimes even encouraged to donate their bag fee to a charity when not used. Reports show that bag usage in grocery stores dropped by 69%. Retailers like the fee because it allows them to capture revenue for bag usage. For example, the way the bag fee works in Boulder is that all grocery stores are required to charge 10 cents for every plastic or paper bag used at the checkout. The stores retain four cents of the fee and the remaining six cents is sent to the City of Boulder to address the impacts of disposable bags in the community.</td></tr>
</table>

#				
			of plastic bags by retailers, they have created a bag fee mandate in grocery stores only. The program has become well accepted, with shoppers sometimes even encouraged to donate their bag fee to a charity when not used. Reports show that bag usage in grocery stores dropped by 69%. Retailers like the fee because it allows them to capture revenue for bag usage. For example, the way the bag fee works in Boulder is that all grocery stores are required to charge 10 cents for every plastic or paper bag used at the checkout. The stores retain four cents of the fee and the remaining six cents is sent to the City of Boulder to address the impacts of disposable bags in the community. In addition, the City of Louisville currently does not require retailers – or any businesses – to recycle and compost, despite a requirement for residents to do so. To require businesses to recycle and compost would require an ordinance. This could potentially be done while still empowering the business to choose their own hauler. In the past, the City Council has not agreed to make this mandatory for businesses. It is possible that this could be reevaluated in the future. Furthermore, the City will be renegotiating its waste contract and issuing an RFP for renewal of the waste contract in 2019. These additional topics will not be addressed by this contract, but they would be appropriate to revisit together in mid-to-late 2018.	
45	Ws-ET1S2: Increase awareness through City's online sources regarding options for hard to recycle materials.	4	CHaRM information may be easily found on two of the City's website pages: • Residents>Sustainability • Residents>Sustainability>Recycling Options and Information	• Continue to make CHaRM information available via the City website and watch for opportunities to include information via other outreach methods.
46	Ws-ET1S3: Encourage Homeowner Associations (HOAs) to offer the same level of waste services (e.g. compost) as the community.	2	The City of Louisville currently does not require Home Owner's Associations (HOAs) to recycle and compost, despite a requirement for its residents to do so. Unlike other residents, HOAs currently offer waste services with their own selected haulers. While not required, Louisville HOAs currently offer recycling services, but not necessarily composting services. To require HOAs to recycle and compost would require an ordinance. This could potentially be done while still empowering the HOA to choose their own	• Consider a study session and potential ordinance to require all Louisville HOAs to offer recycling and composting along with their trash service, using the hauler of their choice.

			licensed hauler with pay-as-you-throw pricing. In the past, the City Council has not agreed to make this mandatory for HOAs. It is possible that this could be reevaluated. It is noteworthy that this project would directly and potentially significantly impact GHG emissions recorded in Louisville's annual GHG inventory. Rates of diversion factor into these calculations. The City will be renegotiating its own residential (non-HOA) waste contract and issuing an RFP in late 2018 for renewal in 2019. While the potential requirement of an HOA to provide both composting and recycling is not be addressed by this contract, it might be an appropriate issue to revisit with the City Council in mid-to-late 2018 while similar topics are being raised.	
47	Ws-ET1S4: Promote and use PACE sustainability services for businesses, and collaborate on a green business recognition program.	4	Over the last year, the City has strongly promoted Partners for a Clean Environment (PACE) services via its website and through its Green Business Recognition program, in which PACE plays a key role. Affiliated with Boulder County, PACE also works through other organizations, such as the CTC Building Owners Association and the Louisville Chamber of Commerce, to assist Louisville businesses in considering energy, water, waste, and transportation options. This includes initiatives that reduce energy, water usage, and promote zero waste.	• Continue to promote Partners for a Clean Environment (PACE) to promote the Green Business Recognition program and to promote zero waste initiatives for businesses.
	External - Adopt financial incentives for waste reduction by residents & businesses			
48	Ws-ET2S1: Promote recyclable substitutes/replacements for single use throw-away items, such as plastic bags, foam clamshell food containers, disposable plastic water bottles, etc.	3	This appears to repeat the intent of above strategy Ws-ET1S1: "Partner with local retailers to reduce use of landfill waste." See above for comments and recommendations.	• None.
49	Ws-ET2S2: Promote markets for Citywide generated recyclables and compost.	3	This strategy represents the effect of promoting recycling and composting nationally and globally, and not a measurable local strategy in its own right. It is notable that recycling alone generates 85,000 jobs in Colorado.	• None.

DRAFT

50	Ws-ET2S3: Encourage use of County Hazardous Materials Management Facility (HMMF) through the no-copay program.	4	Residents of Louisville may currently take hazardous materials to the Hazardous Materials Management Facility (HMMF) free at drop off. This is a service the City of Louisville supports through utility bill fees ($30K per year) and is well-utilized with 1,356 drop-offs (46 tons of hazardous waste) by Louisville residents in 2016. Fifty-two tons of hazardous waste were dropped off at the HMMF by Louisville residents in 2015. This service is currently promoted via the City website. This diversion effort factors into a reduction of GHG emissions by the community.	• Continue to promote residential use of the Boulder County Hazardous Materials Management Facility (HMMF).
	External - Divert commercial waste disposal			
51	Ws-ET3S1: Support commercial food composting.	2	The City currently strongly encourages that all food containers and leftover food used at City sponsored events (including Street Fair) by participating retailers be composted. The City of Louisville currently does not require businesses to compost or recycle, despite a requirement for residents to do so. To require businesses to recycle and compost would require an ordinance. This could potentially be done while still empowering the business to choose their own hauler. In the past, the City Council has not agreed to make this mandatory for businesses. It is possible that this could be reevaluated in the future. This is further addressed in Ws-ET1S1. In addition, the Planning and Building Department has expressed a desire to place a "Room to Recycle" requirement and/or incentives in the new Design Guidelines in order to encourage commercial and multi-family building development to plan for recycling access.	• Consider inclusion of "room for recycling" requirement and/or incentives in the new Design Guidelines.
52	Ws-ET3S2: Provide free waste audits for businesses and support zero waste implementation by promoting PACE.	3	The City does not have capacity to provide free waste audits for businesses. The City of Louisville currently promotes PACE, however, which provides waste audits for businesses. This is already addressed in above strategy Ws-ET1S4.	• None.

Local Food and Agriculture

	Develop system of City supported community gardens			
53	L-IT1S1: Encourage additional community garden locations throughout Louisville.	1	One member of the LSAB reports the following: In 2016 Council requested that LSAB investigate the feasibility of a second community garden. It was suggested that the garden location serve the new South Boulder Road high-density housing developments. In a subsequent meeting between LSAB and the Planning Department it was revealed that no city owned public use land or green spaces had been included in those developments. There were approximately 20 general inquiries on obtaining a plot for the 2017 season. All plots were rented in 2017. For the 2017 season, the number of people impacted by the garden directly was approximately 80. As many gardeners donate surplus produce to food banks, an additional number of people benefited from the garden indirectly. The impact on the community is also felt in the public events the garden sponsors: Music in the Garden, Kids Night in the Garden, The Harvest Festival. These activities are attended by non-gardening members of the community. The existing garden has a wait list for the 2018 season. If suitable land is made available, additional gardens are certainly feasible. Denver Urban Gardens has agreed to sponsor a second garden in Louisville. The current Garden Leaders have expressed a willingness to mentor the Leaders of a second garden. City staff does not currently have capacity to lead the effort toward additional gardens. To accomplish the 2015 Community Garden project, LSAB and a group of residents led the charge, enlisting a non-profit group for management. Any new community garden location would be dependent on a variety of issues, most notably access to water. The Parks and Recreation Director has indicated that he would be supportive of additional community garden locations, but that he is not aware of any current requests from the	• Continue to work with local resident led groups to enable community gardens, if desired. • Work with the Planning Department to give suitable weight to public green spaces during development and renovation projects.

			community.		
			If the LSAB or a resident group desires to take charge, however, it seems the City would be open to supporting.		
54	Conduct workshops for community gardening	1	City staff does not currently have capacity to conduct workshops for community gardening. For the City to hold a workshop on community garden, it would be wise to ensure City staff is in place to lead and facilitate the implementation of a garden, which it is currently not in a position to do. The Community Garden does, however, hold a workshop pre-growing season on community gardening. Additionally, the LSAB could potentially facilitate a workshop on community gardening.		• The LSAB should consider holding an informative workshop on community gardens to gauge interest in additional gardens.
	External - Develop citizen based food sales program				
55	Allow citizens to sell locally produced items such as eggs, honey and produce.	2	Residents may currently sell locally produced items at an appropriate venue under Cottage Food Law, with an automatic exemption from the Colorado Retail Food Protection Act. As a private entity, the Farmer's Market in Louisville, for example, allows for these types of sales at their own discretion, requiring only a business license and insurance for sales of raw agricultural products. To do more, the City could adapt zoning regulations that would allow vendors more flexible sales of locally produced goods, such as from their own lots.		• The City should consider adapting zoning regulations to allow vendors more flexible sales of locally produced goods, such as the ability to sell from one's own lot.
56	Provide resource information about local food economy.	4	There is a list of resource links for the Louisville Farmer's Market, local CSAs, the Community Garden, etc. on the City of Louisville website, on the Sustainability page.		• Continue to provide resource information about local food on City website.
57	Track community supported agriculture participation.	1	Community Supported Agriculture (CSA) information may be found on the Louisville website, on the Sustainability page. CSAs are private businesses. The City, therefore, has no mechanism, ability, or jurisdiction to track community participation in any CSA.		• None

List of Action Recommendations by Priority

Following is a list of recommended actions in order of highest to lowest priority, arranged according to category.

Energy Recommendations by Priority

Energy	Strategy from Sustainability Action Plan	Recommended Action	Stakeholders										Timeframe Estimate					Funding			Importance factor	Total
			Finance	Public Works	Planning	City Manager	Econ Dev	Library	Police	Parks & Rec	Boards/Comm	Council	<6 months (4 pts)	<18 months (3 pts)	<24 months (2 pts)	24 months + (1 pt)	Ongoing (1 pt)	Within Current budget (5 pts)	Requires additional budget (1 pt)	Likely to find all or partial funds (grants) (3 pts)	Affects Environment (multiplier)	Prioritization Score
	Update inventory of greenhouse gas (GHG) production	Once the County Commissioners have approved and adopted the 2016 GHG inventory and the results have been reported publicly, the Council should determine a frequency for subsequent inventories.				x							4				1	5			1.2	12
	Set new goals for GHG reductions	Determine community-wide near- and long-term GHG emissions reduction targets, to be approved by City Council.				x					x	x	4				1	5			1.2	12
	Achieve 80% of points for new buildings under LEED Energy & Atmosphere section	Continue to seek 60-79 points (gold standard) under the Energy & Atmosphere section of the USGBC LEED rating system (or equivalent system) for new municipal buildings, including the new Recreation Center, on a case-by-case basis, as appropriate. .	x	x	x	x				x		x	4				1	5			1.2	12

	Objective	Action																			
	Purchase lowest fuel-use vehicles practical for the City fleet.	Perform analysis on vehicle replacements (including road vehicles and riding tractor mowers) on a case-by-case basis, with an aim to purchase electric or lowest fuel-use vehicles as feasible for the City fleet.	x	x	x			x	x		4			1	5			1.2	12
	Aim for all eligible existing City buildings be benchmarked using the ENERGY STAR performance standards. For ENERGY STAR eligible buildings, a strategy and costs will be developed for energy efficiency improvements.	Develop strategy and costs for energy efficiency improvements for buildings on a case-by-case basis.	x								4			1	5			1.2	12
	Expand solar and renewable energy purchases for City buildings	Explore and compare opportunities to make a plan to transition the remaining 50% of municipal facilities' energy needs to renewable sources.	x		x						4				5			1.2	10.8
	Develop conversion plan for City vehicle fleet to implement new vehicle technologies as they become available for testing and use.	Formalize conversion plan for City vehicles, including sedans, trucks, and lawn mowers, with new technologies. The City Manager's Office should work in tandem with Public Works to meet this objective, with input from other affected departments, as necessary.	x		x						4				5			1.2	10.8
	Implement controls and policies to limit idling of City vehicles.	Create a simple awareness campaign addressing the reduction of idling in City vehicles and determine if an official policy is appropriate. Staff may be educated about vehicle idling by both email and through general staff-wide sustainability training.	x	x	x			x	x		4				5			1.2	10.8
	Aim for all eligible existing City buildings be benchmarked using the ENERGY STAR performance standards. For ENERGY STAR eligible	Explore whether the Library, Police Department, and Recreation center might be usefully be measured through Energy Star.	x								4				5			1.2	10.8

Action	Description				Score
buildings, a strategy and costs will be developed for energy efficiency improvements.					
Benchmark eligible City building with Energy Star & work toward energy efficiency improvements	Develop strategy and costs for replacement and/or evaluation of remaining non-cobra head streetlights.	x	4	5	1.2	9.9
Aim to achieve 80% of all points within the Energy & Atmosphere section of the USGBC LEED for new City building construction.	If seeking a LEED Gold Standard for new municipal buildings is desired as a policy, the Planning Department should make a recommendation to the City Council for potential formalization through resolution.	x x	4	5	1.1	9.9
Promote and use available Energy Smart efficiency services for residents.	Host a community outreach session to address energy rebates available to Louisville residents.	x	4	5	1.1	9.9
Adopt building codes & policies that promote energy efficiency in new and existing buildings.	Continue to evaluate the adoption of updated building codes to the advancement of energy efficiency in new buildings, every three years as appropriate.	x x	3	5	1.1	8.8
Adopt building codes & policies that promote energy efficiency in new and existing buildings.	Guidelines favoring energy efficiency should be included in the new PUD as potential "waiver currency".	x	3	5	1.1	8.8
Purchase lowest fuel-use vehicles practical for the City fleet.	Determine with the Police Department whether they would like to purchase an electric vehicle/EVSE in 2018. If yes, then a grant application should be made in Q1 2018.	x x	3	1 3	1.2	8.4
Develop conversion plan for City vehicles using new	Apply for a RAQC grant to install an electric vehicle charging station (EVSE) at the Recreation Center in 2018.	x x x	3	1 3	1.2	8.4

Action	Description																			
technologies																				
Perform energy audits of City facilities	Continue to quantify energy usage data annually by BTU/ft2, performing regular audits of municipal facilities.	x											1	5			1.2	**7.2**
Aim for all eligible existing City buildings be benchmarked using the ENERGY STAR performance standards. For ENERGY STAR eligible buildings, a strategy and costs will be developed for energy efficiency improvements.	Update the Energy Star data on City Hall and any other relevant buildings on an annual basis. Continue to quantify annually by BTU/ft2.	x											1	5			1.2	**7.2**
Promote and use available EnergySmart efficiency services	Continue to work closely with Boulder County Sustainability office to promote EnergySmart efficiency services, including affordable energy audits, energy efficiency discounts, solar rebates and low-interest energy loans to Louisville's residents and businesses through both the City Manager's Office and Planning and Building.			x									1	5			1.2	**7.2**
Promote and use Partners for a Clean Environment (PACE) sustainability services for businesses, and collaborate on a green business recognition program.	Continue to promote Partners for a Clean Environment (PACE) to help businesses reduce energy and costs, and make progress in energy, waste, water and transportation improvements.			x	x			x					1	5			1.2	**7.2**
Provide and develop information for residents and businesses on conservation and rebate programs	Continue to use the Energy Stars logo, developed in conjunction with Xcel Energy's Partners in Energy program, to promote and develop information for residents and businesses on conservation and rebate programs for energy efficiency and renewable energy.			x				x					1	5			1.2	**7.2**

DRAKT

	Adopt building codes & policies that promote energy efficiency	Continue to evaluate the adoption of updated building codes to the advancement of energy efficiency in new buildings, every three years as appropriate.			x						x				1	5			1.1	6.6

Water Recommendations by Priority

	Strategy from Sustainability Action Plan	Recommended Action	Stakeholders										Timeframe Estimate					Funding			Importance factor	Total
Total			Finance	Public Works	Planning	City Manager	Econ Dev	Library	Police	Parks & Rec	Boards/Comm	Council	<6 months	<18 months	<24 months	24 months +	Ongoing	Within Current budget (5 pts)	Requires additional budget (1 pt)	Likely to find all or partial funds (grants) (3 pts)	Affects Environment (multiplier)	Prioritization Score
Water	Achieve 80% of all the new construction water efficiency points in the USGBC LEED for water use reduction and rain water management, applicable to specific type of building.	Continue to seek 60-79 points under the Indoor Water Use and Rainwater Management sections of the USGBC LEED rating system (or equivalent system) for new buildings, including the new Recreation Center, on a case-by-case basis.		x	x					x		x	4				1	5			1.2	12
	Replace or retrofit city building plumbing fixtures to meet or exceed current code	Continue to replace or retrofit City building plumbing fixtures to meet or exceed current code, as appropriate.		x									4				1	5			1.1	11
	Develop, market to the community, and update Louisville specific plans that address water conservation and quality.	Host a community outreach session to address Louisville specific plans that address water conservation and quality.		x		x							4					5			1.2	10.8
	Conduct a gap analysis for the water efficiency tools, resources and incentives	Conduct a gap analysis for community resources for water efficiency tools, to be maintained annually to identify gaps and inform outreach initiatives.		x		x							4				1	5			1	10

DRAFT

41

Action	Description	Score
Benchmark all City buildings indoor water use	Public Works and the City Manager's Office should discuss what it would like to do with the water usage information provided (e.g. for public or internal usage), as well as how to continue benchmarking on an ongoing basis.	9
Encourage quality drought resistant landscaping through the development review process.	The Planning and Building Department should include language encouraging quality drought resistant landscaping in the new design guidelines.	9
Encourage quality drought resistant landscaping through the development review process.	Continue to watch for opportunities to implement drought resistant landscape.	7.2
Promote and continue to use local water quality programs	Continue to promote local water conservation and water quality programs (e.g. Keep It Clean Partnership, Center for Resource Conservation) to Louisville residents and businesses on the City's website, via community alerts, through the City's water bill inserts and any other appropriate channel.	7.2
Manage and upgrade infrastructure to reduce leaks in the system	Continue to manage and upgrade infrastructure to reduce leaks in the water metering system, including the performance of scheduled annual audits.	6.6
Continue to update equipment and procedure manuals related to water use, wastewater and storm water treatment and incorporate methods to promote sustainability & limit environmental impacts.	Continue to update equipment and procedures to promote sustainability & limit environmental impacts.	6.6
Create a community wide green infrastructure plan to capture and infiltrate rain water	Plans for a Stormwater Master Plan should be further developed. The desire to create a community-wide green infrastructure plan to capture and infiltrate rain water should be bookmarked for discussion for incorporation.	6

	Goal	Action																									Score
6	Use non-drinking water to meet needs when feasible	Continue to watch for opportunities to use non-potable water to meet needs when feasible.	x						x						1	5					1		**6**
5	Aim to have Coal Creek removed from State's list of impaired or polluted waters.	Add the desire and plan to remove Coal Creek from the list of polluted waters to the Stormwater Master Plan	x		x				x	x	x			1				1	3	1		**5**
	Replace or retrofit city building plumbing fixtures to meet or exceed current code	Perform an audit on City plumbing fixtures to determine what remains to be done and create an action plan.	x									3						1		1.1		**4.4**

Transportation Recommendations by Priority

Total	Strategy from Sustainability Action Plan	Recommended Action	Stakeholders										Timeframe Estimate					Funding			Importance factor	Total
Prioritization Score			Finance	Public Works	Planning	City Manager	Econ Dev	Library	Police	Parks & Rec	Boards/Comm	Council	<6 months (4 pts)	<18 months (3 pts)	<24 months (2 pts)	24 months + (1 pt)	Ongoing (1 pt)	Within Current budget (5 pts)	Requires additional budget (1 pt)	Likely to find all or partial funds (grants) (3 pts)	Affects Environment (multiplier)	Prioritization Score
Transportation	Incentivize businesses to include electric vehicle charging	Consider adding EVSE (electric charge stations) build-out into a guideline list in the current PUD project.			x	x	x						4				1	5			1.2	12
	Promote and use PACE sustainability services for businesses, and collaborate on a green business recognition program.	Continue to promote Partners for a Clean Environment (PACE) to help businesses with transportation options with the aim of reducing the number of single occupancy vehicles on Louisville roads and between neighboring communities.				x	x					x	4				1	5			1.2	12
	Invest in bicycle, pedestrian and transit options which provide safe, pleasant non-vehicle means of accessing schools, commercial areas,	Consider the installation a bike repair station outside of the library.		x			x						4					5			1.2	10.8

	Goal	Action																						
	recreational facilities and municipal locations.																							
	Invest in bicycle, pedestrian and transit options which provide safe, pleasant non-vehicle means of accessing schools, commercial areas, recreational facilities and municipal locations.	Develop a City map for residents displaying all non-vehicle access points and to be made available online.	x	x	x						x	4					5			1.2	10.8
	Invest in bicycle, pedestrian and transit options which provide safe, pleasant non-vehicle means of accessing schools, commercial areas, recreational facilities and municipal locations.	Determine what the City needs to do, if anything, to help Commuting Solutions develop sponsors for Bike Share (Zagster) stations between communities.		x	x							4					5			1.2	10.8
	Offer incentives to City staff for alternative transportation	Explore whether the Human Resources Department could add bike-to-work as an incentive in the Employee Wellness program and implement, if possible.			x							4					5			1.2	10.8

	Action	Description																						Score
	Develop transportation solutions with neighboring communities	Continue to discuss with RTD routes between neighboring municipalities and Louisville to improve regional and local transit service.	x		x										4				5				1.2	10.8
	Develop bike maps and way finding signage	Develop a Louisville-specific map for residents showing all non-vehicle access points	x	x	x										4				5				1.2	10.8
	Offer incentives to City staff for alternative transportation	Continue to investigate ways for the City to provide relevant or feasible transportation benefits.	x		x										4				5				1.1	9.9
	Incentivize businesses to include electric vehicle charging	Provide links on the website for information about rebates, grants, and services that would help incentivize businesses to install EVSE (electric charge stations).			x										4				5				1.1	9.9
	Adopt transportation master plan that identifies alternative means so citizens of all ages can safely and comfortably walk or ride a bike.	Create a Transportation Master Plan. Ensure that it includes the identification of alternative modes of transportation, including multi-modal access points and transit pathways, so citizens of all ages can safely and comfortably walk or ride a bike.	x	x	x						x				3				5				1.2	9.6
	Develop transportation solutions with neighboring communities	Continue to explore an RTD bus route serving the CTC/Major employment center.			x										3				5				1.2	9.6
	Invest in bicycle, pedestrian and transit options which provide safe, pleasant non-vehicle means of accessing schools,	Add the desire to invest in non-vehicle transportation modes into the future Transportation Master Plan.	x	x							x				3				5				1.1	8.8

Action	Description				Score
commercial areas, recreational facilities and municipal locations.					
Develop bike maps and way finding signage	Explore what the City can/should do to expand First and Final Mile program through implementation of the Transportation Master Plan.	x x x	3	5	1.1	8.8
Offer incentives to City staff for alternative transportation	Make a plan regarding upgrades or installation of shower facilities for staff.	x x	3	1 3	1.1	8.4
Develop transportation solutions with neighboring communities	Develop alternative transportation solutions between communities into the future Transportation Master Plan.	x x x x	3	1 3	1.2	8.4
Support upgrade of communication infrastructure	If City Broadband is approved by vote, then move forward with streamlining and improving City facilities' broadband capacity where relevant.	x x x	2	5	1.2	8.4
Develop transportation solutions with neighboring communities	Continue to work with Commuting Solutions to move the FastTracks project forward, as well as other multi-modal projects.	x	1	5	1.2	7.2
Incentivize businesses to include electric vehicle charging	Continue to support the Climate Mayors & States initiatives as a push for more funding for EVSE infrastructure within the municipality of Louisville, as well as between communities across the state and nation.	x x	1	5	1.1	6.6
Improve walkability through cross-walks and safe school routes with BVSD	Continue to work directly with BVSD whenever an issue arises concerning crosswalks and safe school routes.	x x	1	5	1.1	6.6

DRAFT

| | Offer incentives to City staff for alternative transportation | Determine if any City facilities require further bike racks and whether a shower facility might be reasonable to implement on site. | | | | | | | | | | | | | | | x | | | | | | | | | 3 | | | | | | | 1 | | 1.1 | **4.4** |

Waste Recommendations by Priority

Category	Strategy from Sustainability Action Plan	Recommended Action	Stakeholders										Timeframe Estimate					Funding			Importance factor	Total
			Finance	Public Works	Planning	City Manager	Econ Dev	Library	Police	Parks & Rec	Boards/Comm	Council	<6 months	<18 months	<24 months	24 months +	Ongoing	Within Current budget (5 pts)	Requires additional budget (1 pt)	Likely to find all or partial funds (grants) (3 pts)	Affects Environment(multiplier)	Prioritization Score
	Install triple bin waste collection at City facilities and park as practical	An inventory should be taken of all parks and facilities to determine which facilities need bins for diversion (e.g. recycling or composting). An analysis of cost should be made, as well as expected challenges and recommendations.		x		x				x		x	4				1		1	3	1.2	10.8
	Install triple bin waste collection at City facilities and park as practical	Apply for either a CDPHE Recycling grant or a Boulder County Zero Waste Grant at the end of 2017 (and going forward) for possible funding of new bins for parks or facilities and/or for funding of a composting service for dog waste at the City's dog parks.		x		x				x		x	4				1		1	3	1.2	10.8
	Establish City purchase guidelines that consider impact from product life-cycles.	Consider centralizing all purchases through one vendor to streamline eco-friendly product selection and to utilize competitive pricing through the setting up of contract items. If centralizing through one vendor is not desirable or possible, then continue current relationships, applying the Green Purchasing Policy to purchase decisions.	x			x							4					5			1.2	10.8

Goal	Action																									Score
Establish City purchase guidelines that consider impact from product life-cycles.	Adopt Green Purchasing Guidelines that promote eco-friendly products be purchased when there is a choice and the selection is not cost-prohibitive. These guidelines would continue to favor local purchases over eco-friendly purchases.	x		x			x		4				5				1.2	**10.8**
Partner with local retailers to reduce use of non-recyclable, non-compostable, and non-reusable containers.	Consider making it a requirement that retailers participating in City Events to use compostable food service products.			x			x	4				5				1.2	**10.8**
Support commercial food composting	Consider an ordinance to require that all Louisville businesses compost and recycle, using the hauler of their choice.			x			x	3			1	5				1.2	**10.8**
Expand recycling programs to include hard to recycle materials	Work to determine what a Hard-to-Recycle Day for Louisville would cost and explore whether the City wishes to either apply for a grant or has capacity to host one or two events annually.		x	x				3			1		1	3	1.2	**9.6**
Partner with local retailers to reduce use of non-recyclable, non-compostable, and non-reusable containers.	Consider an ordinance to implement a plastic bag fee at Louisville grocery and/or retail stores.			x	x			x	3			5				1.2	**9.6**
Partner with local retailers to reduce use of non-recyclable, non-compostable, and non-reusable containers.	Consider an ordinance to require all Louisville businesses to recycle and compost, using the licensed hauler of their choice.		x	x	x			x	3			5				1.2	**9.6**
Encourage HOAs to offer the same level of waste services as the community	Consider an ordinance to require all Louisville HOAs to offer recycling and composting along with their trash service, using the licensed hauler of their choice.			x			x		2			5				1.2	**8.4**

Goal/Objective	Action		Score 1	Score 2	Score 3	Score 4	Total
Increase awareness through City's online sources regarding options for hard to recycle materials	Continue to make CHaRM information available via the City website and watch for opportunities to include information via other outreach methods.	x		1	5	1.2	7.2
Promote and use PACE sustainability services and green business recognition	Continue to promote Partners for a Clean Environment (PACE) to promote the Green Business Recognition program and to promote zero waste initiatives for businesses.	x x		1	5	1.2	7.2
Encourage use of County HMMF through the no copay program	Continue to promote residential use of the Boulder County Hazardous Materials Management Facility (HMMF).	x		1	5	1.2	7.2
Establish City purchase guidelines that consider impact from product life-cycles.	Develop a plan to shift City staff culture toward digital document usage, rather than print.	x x	1	1	3	1.2	6

Local Food and Agriculture Recommendations by Priority

Category	Strategy from Sustainability Action Plan	Recommended Action	Finance	Public Works	Planning	City Manager	Econ Dev	Library	Police	Parks & Rec	Boards/Comm	Council	<6 months (4 pts)	<18 months (3 pts)	<24 months (2 pts)	24 months + (1 pt)	Ongoing (1 pt)	Within Current budget (5 pts)	Requires additional budget (1 pt)	Likely to find all or partial funds (grants) (3 pts)	Affects Environment (multiplier)	Prioritization Score
Local Food & Agriculture	Encourage additional community garden locations throughout Louisville.	Work with the Planning Department to determine a process to give suitable weight to public green spaces during development and renovation projects.			x								4					5				9.9
	Conduct workshops for community gardening.	The LSAB should consider holding an informative workshop on community gardens to gauge interest in additional gardens.									x		4					5			1.1	9.9
	Allow citizens to sell locally produced items such as eggs, honey and produce.	The City should consider adapting zoning regulations to allow vendors more flexible sales of locally produced goods, such as the ability to sell from one's own lot.			x	x						x			2			5			1.1	7.7
	Provide resource information about local food economy.	Continue to provide resource information about local food on City website.	x	x		x					x	x			2			5			1.1	7.7
	Encourage additional community garden locations	Continue to work with local resident led groups to enable community gardens, if desired.		x		x				x							1	5			1.1	6.6

DRAFT

52

Conclusions

These recommended actions address the fulfillment of the various SAP strategies compiled by LSAB and adopted by City Council in 2016 for the purpose of Louisville's fiscal and environmental sustainability.

As stated above, additional notes have been provided to the LSAB with further explanation for many of the recommendations, as well as a list of recommendations regarding updating some of the strategies.

While the recommendations in this plan span multiple departments and stakeholders, the ability to track and implement the above recommendations will largely depend on a reliable project management system. Currently, there is not a long-term staff position to fill this position.

Further, to keep these strategies relevant and up-to-date, it is recommended that the LSAB review and update the SAP every two years.

With the recommendations listed in this 2-Year Work Plan, the City can decide if they wish to pursue these recommendations, potential grants, as well as a longer-term staff position for tracking, evaluation and management.

2-Year Work Plan

for the

Sustainability Action Plan

October 24, 2017

Erika Archer
Sustainability Specialist

Agenda

- Overview of 2017 Work
- Sustainability Action Plan Summary
- Overview of 2-Year Sustainability Work Plan
  - Goals & Objectives
  - Considerations
  - Method
  - Progress
- Recommendations by Category

Overview of 2017 Work

- Xcel's Partners in Energy
- Community outreach
  - Sustainability Series/Staff Training
- Green Business Recognition Award Program
- Boulder County Greenhouse Gas Inventory
- Research
  - Climate Change Resolution
  - Xcel's Colorado Energy Plan
  - Renewables
  - Grants

City of Louisville
COLORADO · SINCE 1878

Sustainability Action Plan Summary

Timeline:

- May 2014: Initial discussions for SAP
- End of 2014: General approach and content identified
- 2015 – 2016: Board worked in sub teams to draft sections
  - Researched – Other Sustainability Plans, Louisville codes and Master Plans, and current technical approaches/feasibility for each subject
  - Each section - multiple reviews by the board
- May 2016: MOU signed with Xcel Energy's Partners in Energy
- June 2016: Citizen Survey Results showed 95% considered sustainability essential or important.
- November 2016: Sustainability Action Plan (SAP) adopted by Council
- June 2017: Sustainability Specialist hired
- October 2017: 2-Year Work Plan Draft review by Council

City of Louisville
COLORADO · SINCE 1878

Sustainability Action Plan Summary

Purpose of the Sustainability Action Plan: To express the desire of the City to make progress toward sustainability, both internally (City operations) and externally (residential and business community).

- The SAP focuses on five categories:
  - Climate & Energy
  - Water
  - Transportation
  - Waste
  - Local Food and Agriculture

City *of* Louisville
COLORADO • SINCE 1878

Overview of 2-Year Work Plan

Goals & Objectives

The goal of this 2-Year Work Plan is to provide an assessment of progress made from the SAP and to recommend steps that may reasonably be performed within 24 months that will allow the SAP strategies to be substantially met.

City *of* Louisville
COLORADO • SINCE 1878

3

Goals & Objectives

Seven considerations went into the development of the recommendations:

- Multiple benefits
- Collaborative approach
- Social equity
- Environmental benefit
- Technical soundness
- Harmonize with existing activity
- Long-term and lasting impact

City of Louisville
COLORADO · SINCE 1878

Method

To create this 2-Year Work Plan, the following framework method was applied to the 57 SAP strategies:

1) **Input** – Interviews and feedback from:
- 22 stakeholders across all departments and directors
- The Louisville Sustainability Advisory Board
- *Currently - City Council*

2) **Research** - existing Louisville programs and neighboring communities.

City of Louisville
COLORADO · SINCE 1878

3) **Synthesis -** Findings were synthesized and processed into recommendations.

4) **Prioritization –**
- stakeholders,
- time required to implement the strategy,
- funding expectations, and
- environmental importance.
- Final prioritization score: scale of 0 (low) – 12 (high)

5) **Prioritized Recommendations -** Recommendations were assembled in order of timeframe, funding and environmental impact.

City *of* Louisville
COLORADO · SINCE 1878

---

2 Charts in the 2-Year Work Plan

1) Detailed Progress and Recommendations.

2) List of Action Recommendations by Priority

City *of* Louisville
COLORADO · SINCE 1878

Progress

26% of the strategies have made High Progress (4)
30% of the strategies have made Partial Progress (3)
28% of the strategies have made Low Progress (2)
16% of the strategies have made No Progress (1)

Key:
4 – High progress with strategy met and/or ongoing.
3 – Partial progress and/or advanced planning stages.
2 – Low progress and/or beginning planning stages.
1 – No progress.

City of Louisville
COLORADO · SINCE 1878

Climate & Energy

Comments?
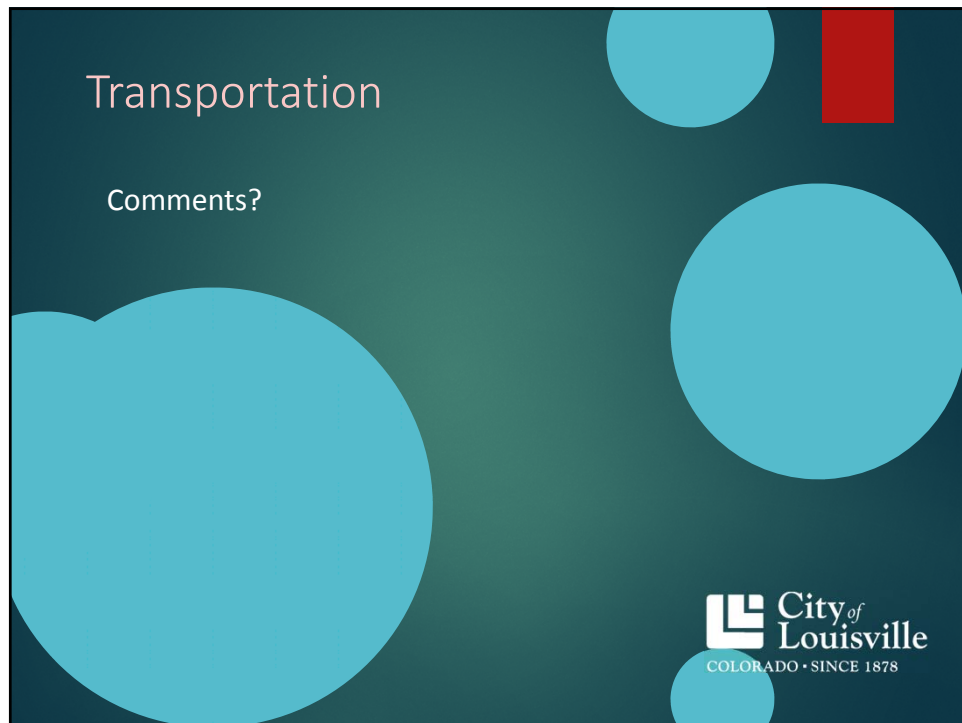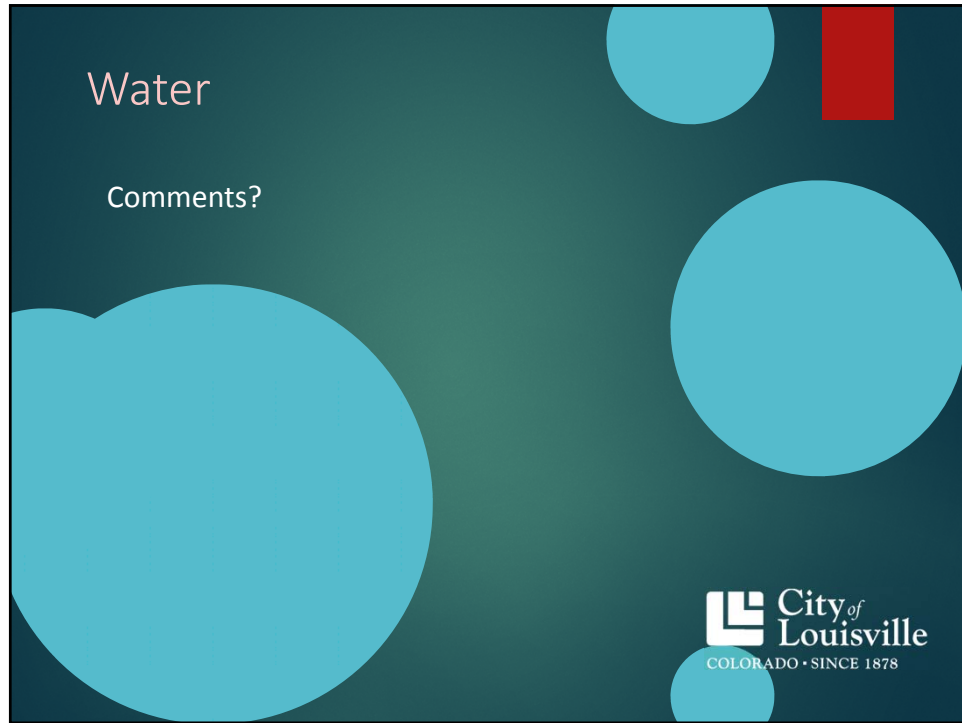
City of Louisville
COLORADO · SINCE 1878

6

Water

Comments?

City of Louisville
COLORADO · SINCE 1878

Transportation

Comments?

City of Louisville
COLORADO · SINCE 1878

Waste

Comments?

City of Louisville
COLORADO · SINCE 1878

Local Food & Agriculture

Comments?

City of Louisville
COLORADO · SINCE 1878

63

LOUISVILLE, COLORADO

SUSTAINABILITY ACTION PLAN
2016

WELCOME

It's widely accepted that human decisions have adversely impacted our surrounding environment. Community leaders must adopt policies to support a sustainable future. Our hope is to prioritize environmental health, economic vitality and community well-being.

Short-term, or status quo, thinking will only limit our community's ability to remain successful in the region. The City of Louisville needs a clear framework of actionable items and credible guidance to achieve goals that support the environment and the community in a responsible way.

Community members have repeatedly voiced their support for the City's commitment to responsible governance. To this end, the City of Louisville has incorporated and invested in many sustainable initiatives in recent years. By making these initiatives a priority, Louisville will reach greater economic strength for businesses, better health and well-being for residents and provide a positive example for other communities in the State of Colorado.

The City established the Louisville Sustainability Advisory Board (LSAB) as an advisory board for relevant issues within our community. The purpose of this report is to provide an adaptable roadmap to advise the current and future City leadership as they continue to build Louisville's sustainable future.

Sincerely,
LSAB

LOUISVILLE SUSTAINABILITY ADVISORY BOARD (LSAB)

The LSAB Board consists of seven volunteer members from the Louisville community who are appointed by City Council to a term of four years. All members are tasked with specific responsibilities as detailed in the Municipal Code and City Charter. The Board complies with the City's open government rules and Code of Ethics.

Current Members:

Jamie Bartlett
Dan Delahunty
Mary Ann Heaney
Allison Johanson
Marianne Martin
Mark Persichetti
Justine Vigil-Tapia

MISSION STATEMENT

Promoting sustainability through energy efficiency, resource conservation and localization to better the environment, social well-being, and economic vitality of the City of Louisville.

Recent Contributing Members:

Jim Bradford
David Hsu
Claudia Lenz

Current Council Rep:
Jay Keany

Other Advisors:
Dave Szabados – City Staff

TABLE OF CONTENTS

FOCUS AREAS

In 2012, the Louisville Sustainability Advisory Board tasked themselves with the creation of a document to outline recommendations for the City. The Sustainability Action Plan is intended to articulate Louisville's vision to create a more sustainable community as well as provide a roadmap for achieving our collective goals.

This following plan is intended to offer a perspective on past accomplishments and future endeavors. Additionally, the plan will help guide City staff with decisions related to sustainable focus areas.

The plan includes guidelines for internal City operations as well as community-wide approaches for residents and businesses. In general, the current plan has a focus on environmental impacts and their potential economic benefits.

WHAT IS AN ACTION PLAN?

The Sustainability Action Plan (SAP) sets measureable targets that can be tracked and updated on a regular basis. In this regard, the SAP will be a flexible document that will be regularly adjusted based on new data and information.

HOW DO YOU READ THIS PLAN?

GOAL
Desired state of the community

TARGETS
Numeric/quantifiable representation of the goal.

IMPLEMENTATION STRATEGY
Series of actions that help the community achieve goal
Supporting: Education, collaboration and research aimed at increasing the information knowledge gaps

DATA: Charts/graphics/statistics highlight relevant information

70

PLAN STRUCTURE

This action plan is sectioned into five key impact areas of sustainability. Each focus area offers a brief introduction provided by subcommittee members of LSAB. We identified impact areas specific to the City of Louisville, as well as goals to address each of those issues. Each focus area has at least one major Goal. We have outlined Internal (for the City to address) and External (for residents and businesses) Targets to reach these goals. Each target identifies potential community members who can positively impact this focus area (E.G. City Staff, Residents, Business). Specific implementation strategies for target areas will need to be adopted in follow-up plans approved by Council members.

Sustainability Action Plan Focus Areas:
1. Climate & Energy
2. Water
3. Transportation
4. Waste
5. Local Food & Agriculture

DEFINITION OF SUSTAINABILITY

The word "sustainability" can be difficult for communities to define and sometimes off-putting or misunderstood. For some, the word conjures up images of living without. However, sustainability is an important and useful word regardless of your place on the political or ideological spectrum. For any community to thrive, it must consider that all resources have limits. Our community will become unstable and dependent if we consume resources faster than they can regenerate. By creating this plan, our goal is to identify at risk resources and lay out methods in which our community can effectively mitigate harmful impacts.

SUSTAINABILITY MEANS creating balance among the environment, the economy, and society to ensure that practices and decisions do not compromise the quality of life for future generations. Sustainability is not an end goal, but an approach that recognizes the interplay between natural, economic, and social interests.

This plan is not exhaustive (as community members will also recognize other important resources). As a board, we chose to focus on the following impact areas because 1) they have large environmental and economic impacts; and 2) there are numerous attainable and affordable strategies the City of Louisville can implement in the near future

Community Well-Being

Economic Prosperity

Environmental Health

72

LSAB MILESTONES

The City of Louisville has maintained a commitment to sustainability. The following are some of the recent highlights and milestones representing our Community's commitment.

1988
- Creation of Recycling Advisory Board

1992
- Established Resource Conservation Advisory Board

2004 - 2006
- LRCAB implemented zero-waste trash recycling during city events

2006 - 2008
- Boulder County High-Efficiency Lighting Program grant

2008 on
- Lighting/Energy efficiency upgrades throughout City facilities

2009
- Implemented "pay-as-you-throw" priced single-stream curbside recycling and compost collection

2010
- Installed 432 KW Solar at Waste Water Treatment Plant and Water Treatment Plant

2010
- Established as Sustainability Advisory Board

2013
- Backyard Chickens Approved

2013
- Installed Library electric vehicle charging station

2014
- Sponsored a Greenhouse Gas & Sustainable Action Plan that identified commercial and residential energy usage in 14 sectors

LSAB MILESTONES

The City of Louisville has maintained a commitment to sustainability. The following are some of the recent highlights and milestones representing our Community's commitment.

2015
- Awarded Boulder County Environmental Sustainability Matching Grant, funds Community Garden

2015
- Executed Lease/Purchase for 146 KW Solar with CEC

2016
- Executed Lease/Purchase for 200KW Solar with CEC

2016
- Awarded funding for Water Conservation Efforts
- Established Green Business Recognition Program
- Community Garden Opens

2016
- Executed Capacity Commitment Agreement for 400KW Solar with CEC

First City EV plug, 2013

SUSTAINABILITY GOALS

The following goals guide each section of the plan. These goals represent Louisville's sustainability vision.

CLIMATE & ENERGY

Reduce energy consumption, increase the use of clean energy and transition away from fossil fuels.

WATER

Provide ongoing leadership for water efficiency and water quality efforts to ensure sufficient, clean water for current and future generations.

TRANSPORTATION

Encourage more fuel-efficient transportation and infrastructure, and support healthier and active lifestyles for Louisville community, through increased multimodal options.

WASTE

Increase community waste diversion, striving for a goal of zero-waste, and manage our material resources responsibly and effectively.

LOCAL FOOD & AGRICULTURE

Ensure a sustainable, safe and healthy food supply that is accessible to all and supported by our community.

FUTURE ADDITIONS

We expect this plan to remain flexible as the demands on the City grow and change. While there are still many important issues we haven't highlighted, they are often integrated into these major impact areas.

PLAN EVALUATION

LSAB established a system of metrics to guide the SAP goals. These metrics allowed us to set benchmarks and evaluation criteria for each focus area. Once we organized this information, we were able to identify the remaining knowledge gaps for each area of focus. Further, it initiated some baseline criteria for the City to assess progress on each goal. During future iterations of the SAP, we will continue to work and update this set of metrics to adjust the plan as needed. Below is our qualitative and quantitative criteria for evaluation:

WHAT INFORMATION EXISTS OR IS NEEDED?

Outline existing information, the resource for that information, validation of data.

VISIBILITY AND PUBLIC ENGAGEMENT

Is this high profile? Will a significant percent of citizens notice or be actively engaged?

IMPACT

Will this have a significant positive environmental, economic and/or social impact? How?

COST

Will this be a significant cost to implement for the City budget? Are there ongoing costs? What is the return on investment?

FEASIBILITY

How difficult will this be to implement? What are the known barriers? Is funding available?

SCOPE

Will this impact municipal, commercial, residential?

PUBLIC ENGAGEMENT

The development of the Sustainability Action Plan involved frequent engagement with community stakeholders. We took a multi-faceted approach including:

- **2016 Citizen Satisfaction Survey highly ranked SUSTAINABILITY as a community priority**
- Public open house events
- Online surveys
- Interviews at community events
- Direct communication with interested community members
- Direct communication with City staff members
- Direct communication with County sustainability partners
- Direct communication with neighboring sustainability leaders
- City Council Study Sessions

2 Public Forums

2 Council Study Sessions

52 Public Survey Responses

Public Forum, October 14, 2015

CLIMATE & ENERGY

INTRODUCTION

Small towns located in thriving environments can struggle with increased population demands. Louisville should foster responsible expansion that highlights stable, sustainable and diverse neighborhoods without negatively impacting Louisville's small town charm.

The City of Louisville and its residents recognize the role of energy and the built environment in creating a vibrant and sustainable community. LSAB envisions a future where low-impact development, renewable energy sources and resource-efficient buildings protect our local ecosystem and reduce greenhouse gas emissions.

While a baseline emissions inventory was performed in 2012, new available data and the Partners in Energy program will help identify emissions sources and reduction strategies. LSAB recommends that the City conduct a more thorough emissions assessment of baseline metrics and estimate the impact of key strategies. Based on such, the City should adopt a greenhouse gas emissions reduction goal that is both ambitious and achievable and identifies priority strategies.

Why do we care about greenhouse gases?

Global atmospheric concentrations of carbon dioxide
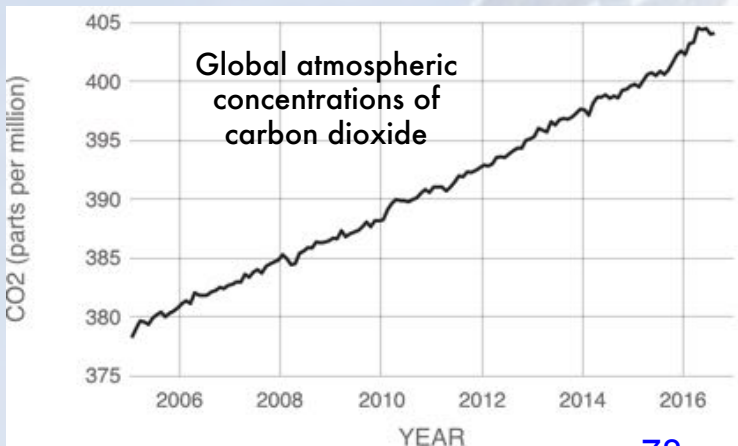
In 2016, global levels of CO2 permanently passed 400 parts per million. This amount of CO2 is pushing global temperatures beyond any point human civilization has experienced.

78

CLIMATE & ENERGY

Where does Louisville create their greenhouse gases?

Residential Electricity Use 11%

Residential Natural gas Use 6%

Food Purchase 19%

Cement 1%

Waste-MSW -2%

Fuel Production 6%

Water/Wastewater 1%

Air Travel 6%

Diesel Vehicles 0%

Gasoline Vehicles 17%

Commercial Electricity Use 27%

Public Building Natural gas Use 0%

Public Building Electricity Use 1%

Commercial Natural Gas Use 5%

*Net municipal waste emissions were (-.06%)
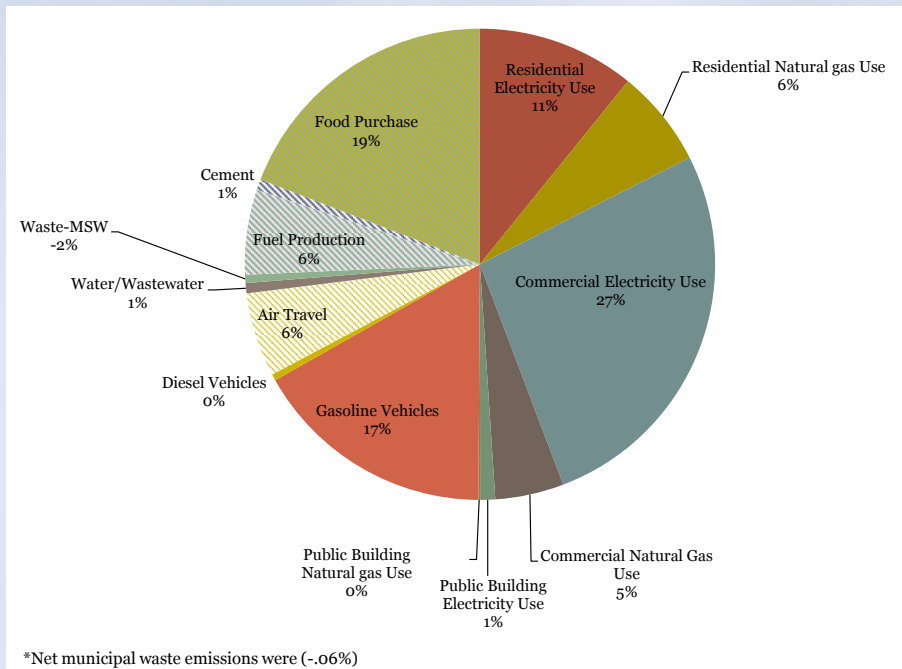
Louisville Baseline Energy Study 2014

CLIMATE & ENERGY GOALS

CLIMATE Move toward carbon neutrality and become more resilient to the effects of climate change

ENERGY Reduce energy consumption, increase the use of clean energy and transition away from fossil fuels.

79

CLIMATE & ENERGY

INTERNAL

TARGET 1

Move towards carbon neutrality for all City operations

STRATEGY 1
Update inventory of greenhouse gas (GHG) production

STRATEGY 2
Set new goals for GHG reductions

STRATEGY 3
Purchase lowest fuel-use vehicles practical for the City fleet

STRATEGY 4
Develop conversion plans for City vehicle fleet to implement new vehicle technologies as they become available for testing and use

STRATEGY 5
Implement controls and policies to limit idling of City vehicles

STRATEGY 6
Install LED traffic signals

First City electric vehicle, 2016

80

CLIMATE & ENERGY

TARGET 2

Move toward carbon neutrality in all City buildings

STRATEGY 1
Aim for all eligible existing City buildings be benchmarked using the ENERGY STAR performance standards. For ENERGY STAR eligible buildings, a strategy and costs will be developed for energy efficiency improvements.

STRATEGY 2
Expand solar and renewable energy purchases for City buildings

STRATEGY 3
Adopt building codes and policies that promote energy efficiency in new and existing buildings

STRATEGY 4
Aim to achieve 80% of all points within the Energy and Atmosphere section of the USGBC LEED for new City building construction

STRATEGY 5
Perform energy audits of City facilities

FROM **2015-2018** LEED-CERTIFIED BUILDINGS ARE ESTIMATED TO HAVE AS MUCH AS...

$1.2 BILLION
IN ENERGY SAVINGS

$149.5 MILLION
IN WATER SAVINGS

$715.3 MILLION
IN MAINTENANCE SAVINGS

$54.2 MILLION
IN WASTE SAVINGS

USGBC Economic Impact Report 16 SEP 2015

CLIMATE & ENERGY

EXTERNAL

TARGET 1

Increase energy efficiency and renewable energy adoption in the commercial and residential sectors

STRATEGY 1
Promote and use available county EnergySmart efficiency services for residents

STRATEGY 2
Promote and use Partners for a Clean Environment (PACE) sustainability services for businesses, and collaborate on a green business recognition program

STRATEGY 3
Provide and develop information for residents and businesses on conservation and rebate programs

STRATEGY 4
Adopt building codes and policies that promote energy efficiency in new and existing buildings

STRATEGY 5
Support utility demand-side management programs and renewable power supply incentives

STRATEGY 6
Promote low-interest financing for residents and businesses to complete energy efficiency upgrades and install renewable energy

Clean Energy Collective Solar Farm, Colorado

WATER

INTRODUCTION

Clean water is one of the most valuable resources world-wide. In Colorado's semi-arid climate and with growing populations, the amount of water available for consumption can vary from year to year. Beyond drinking water, Louisville's water bodies are home to wildlife, used for recreation, and comprised of snowmelt, storm, and treated wastewater. The following outlines strategies to conserve indoor and outdoor water and maintain healthy water bodies.

Where do we get all of our water?

ST. VRAIN CREEK WATERSHED

BOULDER CREEK WATERSHED

LYONS

LONGMONT

BOULDER

LAFAYETTE

LOUISVILLE

SUPERIOR

BROOMFIELD

NORTHGLENN

WESTMINSTER

Land Use

- Open Water
- Perennial Ice Snow
- Urban/Developed
- Barren Land (Rock, Sand, Clay)
- Forest/Shrubland
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Wetlands
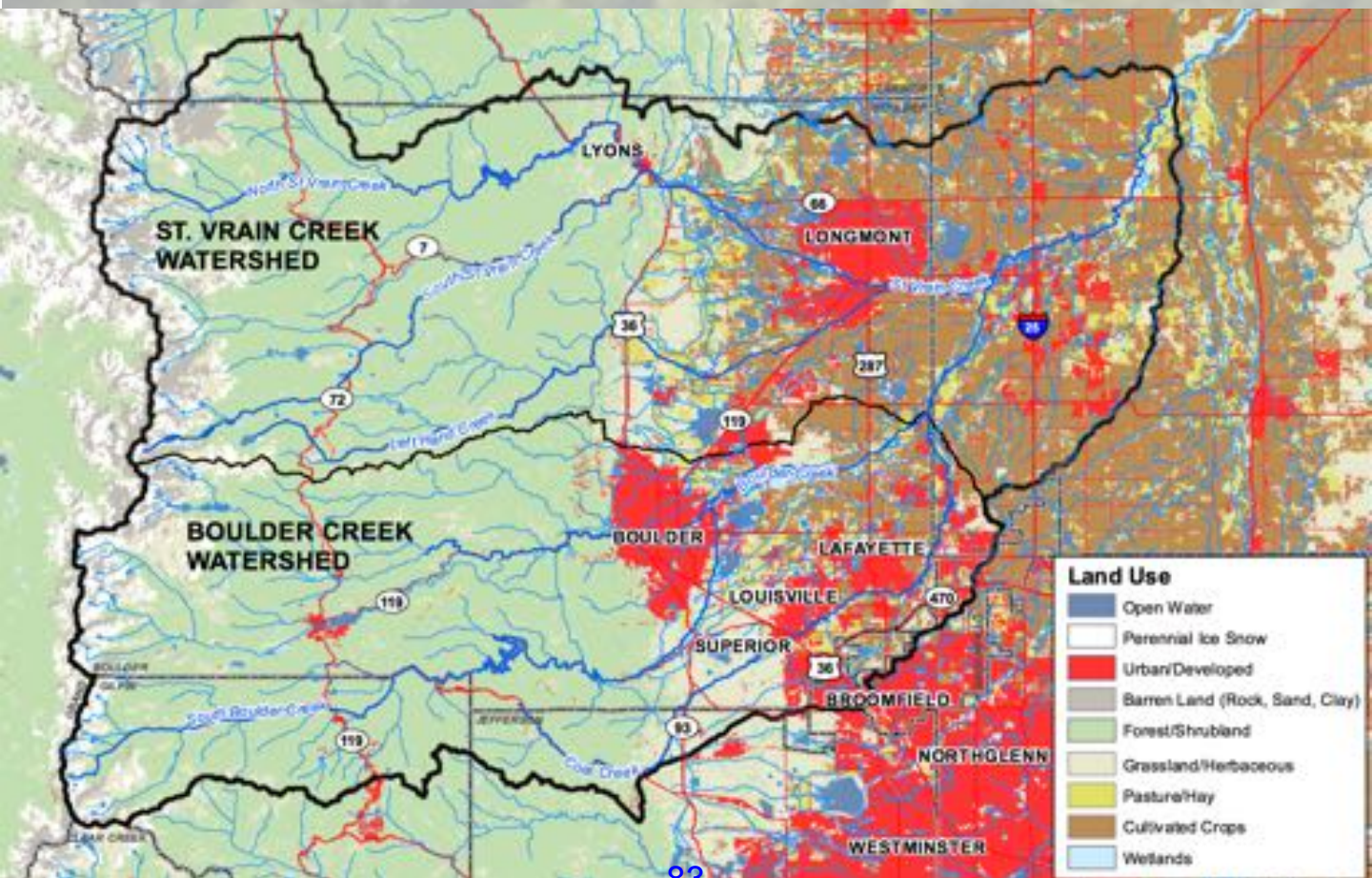
WATER

WATER GOAL

WATER ▸ Provide guidance for water efficiency and quality and ensure clean water for current and future community members.

INTERNAL

TARGET 1

Reduce water usage and improve efficiency of water use within City buildings

STRATEGY 1
Benchmark all City buildings' indoor water use

STRATEGY 2
Replace or retrofit city building plumbing fixtures to meet or exceed current code requirements

STRATEGY 3
Achieve 80% of all the new construction water efficiency points in the USGBC LEED for water use reduction and rain water management, applicable to specific type of building.

STRATEGY 4
Manage and upgrade infrastructure to reduce leaks in the system

---

INTERNAL

TARGET 2

Improve efficiency of water use on Open Space and City landscaping

STRATEGY 1
Create a community-wide green infrastructure plan to capture and infiltrate rain where it falls, thus reducing storm water runoff.

STRATEGY 2
Encourage quality drought resistant landscaping through the development review process.

84

WATER

INTERNAL

TARGET 3

Minimize use of treated water for non-potable functions

STRATEGY 1
Use non-drinking water systems to meet residential, industrial, and agricultural needs when feasible

---

INTERNAL

TARGET 4

Improve and maintain water quality

STRATEGY 1
Continue to update equipment and procedure manuals related to water use, wastewater and storm water treatment and incorporate methods to promote sustainability and limit environmental impacts

STRATEGY 2
Aim to have Coal Creek removed from state's list of impaired or polluted waters

---

EXTERNAL

TARGET 1

Expand water conservation education for City residents and businesses

STRATEGY 1
Conduct a gap analysis of the water efficiency tools, resources and incentives for residents and businesses.

STRATEGY 2
Promote and continue to use local water quality programs including: Keep it Clean; Boulder Area Sustainability Information Network (BASIN); Partners for a Clean Environment (PACE); Center for ReSource Conservation, Slow the Flow; and EnergySmart

STRATEGY 3
Develop, market to the community, and update Louisville specific plans that address water conservation and quality

85

TRANSPORTATION

INTRODUCTION

A city-wide multimodal transportation system is needed to meet the mobility and access needs of all users and to support health and wellness. This can be achieved by planning the land use and transportation infrastructure as a multimodal system that facilitate a balanced system and enhances travel by bicycle, transit, and foot.

Louisville Walk Score, Walkscore.com,
Retrieved October 30, 2016

Currently, Louisville averages a walk score of 37 (see scale below). The walk score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness. The score is becoming very prominent on real estate mobile and web applications.

SCORE

90 – 100	Walker's Paradise Daily errands do not require a car	**50 – 69**	Somewhat Walkable Some errands can be accomplished on foot
70 – 89	Very Walkable Most errands can be accomplished on foot	**25 – 49**	**Car-Dependent** **Most errands require a car**
		0 – 24	Car-Dependent Almost all errands require a car

TRANSPORTATION

Should the city enhance walkability?
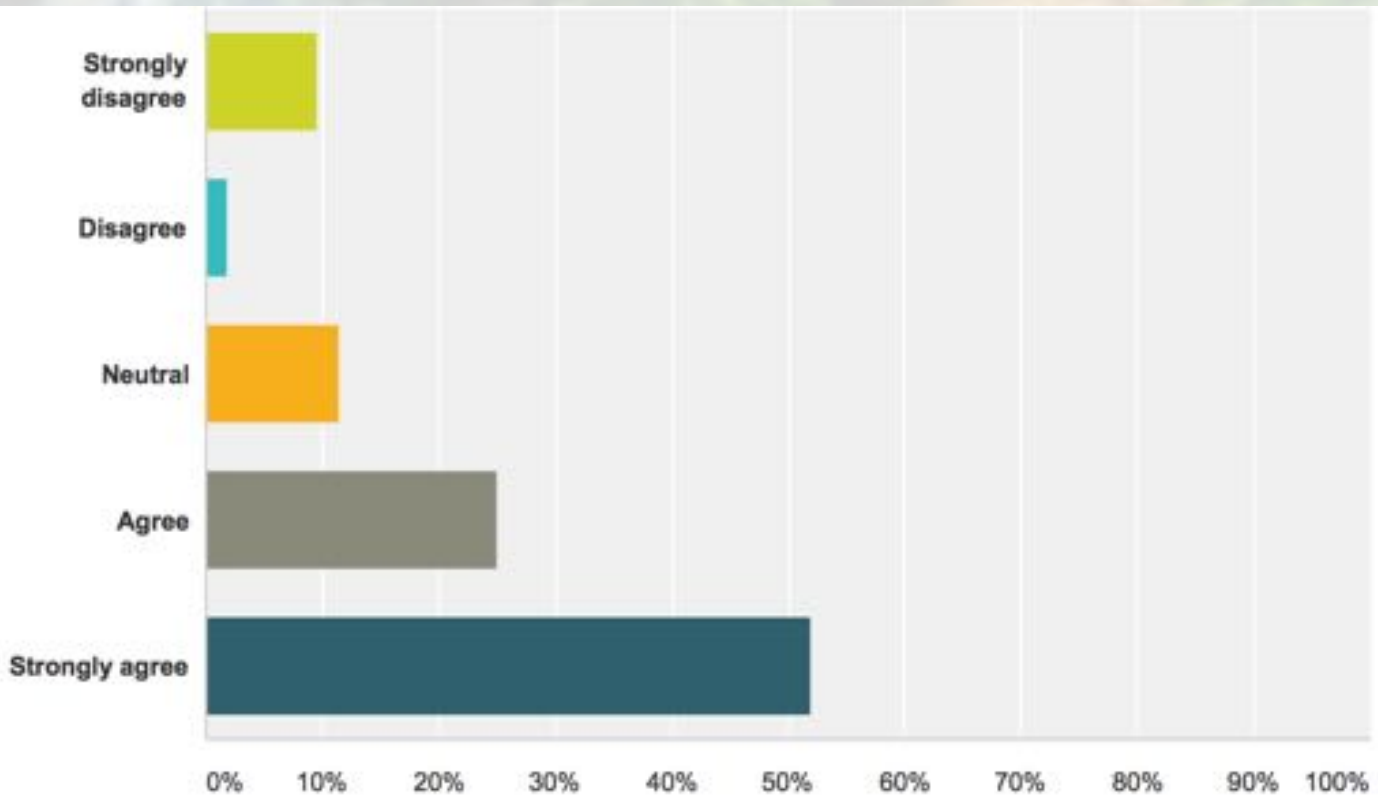
Louisville Sustainability Survey, 2015

TRANSPORTATION GOAL

TRANSPORT Encourage environmentally sustainable transportation choices and infrastructure, and support healthy lifestyles

87

TRANSPORTATION

INTERNAL

TARGET 1

Develop balanced system that serves the entire City for users of all ages and ability levels

STRATEGY 1
Adopt Transportation Master Plan that identifies alternative means so citizens of all ages can safely and comfortably walk or ride a bike

STRATEGY 2
Invest in bicycle, pedestrian and transit options which provide safe, pleasant non-vehicle means of accessing schools, commercial areas, recreational facilities and municipal locations

INTERNAL

TARGET 2

Reduce SOV and GHG emissions and cost impact for City Staff

STRATEGY 1
Offer incentives to City Staff such as: bus/carpool/vanpool subsidies, Bike-to-Work incentives, bike parking and shower facilities

STRATEGY 2
Develop transportation solutions with neighboring communities to establish efficient connections in regional transit

TRANSPORTATION

EXTERNAL

TARGET 1

Support residents and business telecommunicating efforts

STRATEGY 1
Support upgrading of communication infrastructure that would improve internet speeds

---

EXTERNAL

TARGET 2

Reduce SOV and GHG emissions

STRATEGY 1
Explore programs to fund and implement RTD EcoPass for City residents and employees

STRATEGY 2
Develop bike maps and way finding signage

STRATEGY 3
Incentivize businesses to include electric vehicle charging stations

STRATEGY 4
Promote and use Partners for a Clean Environment (PACE) sustainability services for businesses, and collaborate on a green business recognition program.

EXTERNAL

TARGET 3

Incorporate smart growth principles and walkable communities into future land use decisions

STRATEGY 1
Adopt programs to improve ease-of-use for the first and final mile of commuter pathways

STRATEGY 2
Improve walkability through cross-walks and safe school routes with BVSD partnerships

WASTE

INTRODUCTION

The City of Louisville is committed to developing policies, programs and infrastructure that will help residents and businesses with sensible resource management. This includes recycling difficult materials, increased access to composting capabilities, seasonal leaf and branch drops, and the safe management of hazardous materials.

What does Louisville throw away?

- Metal Recycling <1%
- Leaf/Branch 11%
- Compost 16%
- Trash 52%
- Recycling 21%
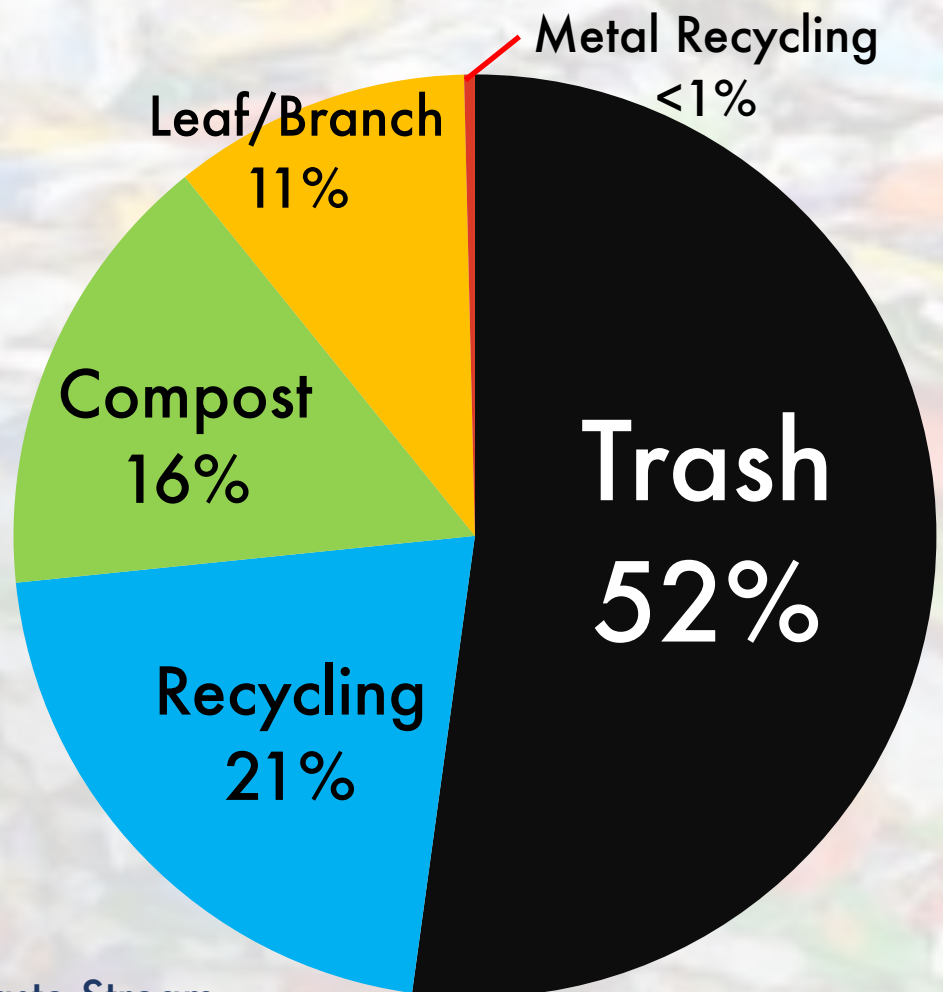
2015 Louisville Waste Stream

WASTE

WASTE GOAL

WASTE ▶ Achieve zero waste and manage resources responsibly and effectively.

INTERNAL

TARGET 1

Reduce production and increase landfill diversion of waste products

STRATEGY 1
Expand recycling programs to include hard to recycle materials (E.G. electronics and pharmaceuticals)

STRATEGY 2
Install triple-bin (recyclables, compostable, trash) waste collection at City facilities and parks as applicable

STRATEGY 3
Establish City purchasing guidelines that consider impact from product life-cycles.

EXTERNAL

TARGET 1

Develop educational programs to reduce business and residential waste

STRATEGY 1
Partner with local retailers to reduce the use of non-recyclable, non-compostable, and non-reusable containers

STRATEGY 2
Increase awareness through City's online sources regarding options for hard to recycle materials.

STRATEGY 3
Encourage Home Owner Associations to offer the same level of waste services (e.g. compost) as the community

STRATEGY 4
Promote and use Partners for a Clean Environment (PACE) sustainability services for businesses, and collaborate on a green business recognition program.

91

WASTE

EXTERNAL

TARGET 2

Adopt financial incentives for waste reduction by residents and businesses

STRATEGY 1
Promote recyclable substitutes/replacements for single-use, throw-away items, such as plastic bags, foam clamshell food containers, disposable plastic water bottles, etc.

STRATEGY 2
Promote markets for city-wide generated recyclables and compost

STRATEGY 3
Encourage use of County Hazardous Materials Management Facility through the no co-pay program

EXTERNAL

TARGET 3

Divert commercial waste disposal

STRATEGY 1
Support commercial food composting

STRATEGY 2
Provide free waste audits for businesses and support zero waste implementation by promoting services of Partners for a Clean Environment (PACE) program

LOCAL FOOD & AGRICULTURE

INTRODUCTION

Louisville residents are very vocal in expressing support for local food production and shopping options that include local produce. This plan section identifies actions that the city and community can work on to advance local food production and live reliably.

Louisville Community Garden 2016

LOCAL FOOD & AGRICULTURE GOAL

FOOD ⟩ Ensure a sustainable, safe and healthy food supply that is accessible to all.

93

LOCAL FOOD & AGRICULTURE

EXTERNAL	
TARGET 1	**STRATEGY 1** Encourage additional Community Garden locations throughout Louisville
Develop system of City supported community gardens	**STRATEGY 2** Conduct workshops for community gardening

EXTERNAL	
TARGET 2	**STRATEGY 1** Allow citizens to sell locally produced items such as eggs, honey and produce.
Develop citizen-based food sales program	**STRATEGY 2** Provide resource information about local food economy
	STRATEGY 3 Track Community Supported Agriculture participation

2016 Community Garden Events

REFERENCES

This plan incorporates elements from federal, state and county legislative agendas as well as existing city initiatives. Our intention is to keep pace with the most up-to-date practices. Sources include but not limited to the following:

Federal Guidance:

Executive Order 13693 (2015) – Planning for sustainability in the next decade.
https://www.fedcenter.gov/Announcements/index.cfm?id=27438&pge_prg_id=39297

American Recovery and Reinvestment Act of 2009 – increase innovative and alternative energy technologies *https://www.whitehouse.gov/recovery/about*

County Guidance:

Comprehensive Plan – Guides decisions on future land uses in a coordinated and responsible manner. *BoulderCounty.org/property/build/pages/bccp.aspx*

Environmental Sustainability Plan (2012) – County-wide guidelines for sustainability practices. *www.BoulderCountySustainability.org*

City Guidance:

Master Plan – Comprehensive plan helps guide decisions on future land uses in a coordinated and responsible manner.
http://www.louisvilleco.gov/home/showdocument?id=358

LSAB Guidance:

Baseline Energy Study (2014) – Comprehensive assessment of the City's energy needs. *http://www.louisvilleco.gov/home/showdocument?id=2140*

Public Workshops (2015) – Feedback gathered by LSAB through public forums. Community members could directly ask Board members questions and vote on topics of interest.

Sustainability Survey (2015) – Feedback gathered by LSAB through city-wide mailer. The survey targeted specific concerns in sustainability.

LEED Certification

LEED is a rating system to evaluate environmental performance. There is not one single pathway to a LEED certification level.

LEED Certification Levels:
> Certified 40 – 49 points
> Silver 50 – 59 points
> Gold 60 – 79 points
> Platinum 80 – 110 points

Areas to obtain points: Sustainable sites, energy & atmosphere, materials & resources, innovation & design process
http://www.concretethinker.com/solutions/LEED-Certification.aspx

Energy Star

US Environmental Protection Agency program that helps businesses and individuals save money and protect our climate through superior energy efficiency.
https://www.energystar.gov/products?s=mega

APPENDIX

Here are some common terms used in the field of sustainable management. Not all of the terms are used in this action plan, but are often used by board members to describe focus areas and to evaluate metrics.

Alternative Energy – Established sources of energy (electricity) production which have minimal environmental impacts compared to traditional sources such as fossil fuels.

Best Management Practices – Effective and practical methods for preventing or reducing negative impacts.

Biodegradable – Substances that will breakdown and return naturally to an ecosystem without processing.

Brownfields – Abandoned, idled or under-utilized industrial or commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

Carbon Emissions – Polluting carbon substances, such as carbon dioxide and carbon monoxide released into the atmosphere. Also referred to as greenhouse gas emissions (GHG).

Carbon Footprint – A measure of impact on the environment in terms of the amount of greenhouse gases produced and measured in units of carbon dioxide.

Climate Change – Implies dramatic shift in climactic conditions

Compact Fluorescent Lamps - Small fluorescent lights which have greater efficiency compared to traditional incandescent lamps.

Composting – Controlled biological decomposition of organic material in the presence of air. Various approaches include: mechanical mixing, aerated piles, and vermicompost.

APPENDIX

Cost-Benefit Analysis – An economic method for assessing costs and benefits of achieving alternative standards compared to the current methods.

Embodied Energy – Energy consumed by the complete process associated with the life cycle of a product or building.

Energy Star – International standard for energy efficient consumer products

Energy Efficiency – refers to the reduction of energy consumption for a given service

Global Warming – Describes a gradual increase in the average temperature of the Earth's atmosphere and oceans.

Greenbelt – policy or land use designation used in planning to retain areas of largely undeveloped, wild, or agricultural land surrounding or neighboring urban areas

Greenhouse Gases – Gases [e.g. Carbon Monoxide, chlorofluorocarbons] that contributes to the greenhouse effect by absorbing infrared radiation

Greywater – Relatively clean waste water from baths, sinks, washing machines and other household uses.

Green Washing – When an organization makes claims through advertising or marketing making claims about environmental policies without practicing such policies.

Habitat – Ecological or environmental area inhabited by a particular species of animal, plant or other organism.

Hazardous Waste – Waste that poses substantial or potential threats to public health or the environment.

Leadership in Energy and Environmental Design (LEED) – Green building certification program that recognizes strategies to improve construction, operation and maintenance of buildings in a sustainable manner.

APPENDIX

Light Emitting Diodes (LEDs) – Light bulbs that use less electricity over their lifetime compared to traditional Compact Fluorescent bulbs.

Life Cycle Analysis – technique to assess environmental impacts associated with all stages of a products life from raw materials, processing, distribution and use.

Regional Transportation District (RTD) – Denver-Boulder area regional mass transportation

Renewable Energy Certificates – Also known as Energy Credits, are tradable, non-tangible energy commodities that represent proof that 1 megawatt-hour of electricity was generated from renewable sources.

Smart Growth – Development approach that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods

Single Occupancy Vehicle (SOV) – a vehicle designed to accommodate more than one person, but being used to transport only one person

US Green Buildings Council (USGBC) – Non-profit organization that promotes sustainability in building design, construction and operation. Certification program known as LEED.

Volatile Organic Compounds (VOCs) – organic compounds that easily become vapors or gases which can irritate or harm people.

Walk Score – Public access walkability index that assigns a walkability score to any address in the United States. Highly used in real estate applications.

Zero Waste – Philosophy that encourages the redesign of resource life cycles so that all products are reused.

A3

CITY COUNCIL COMMUNICATION
AGENDA ITEM III

SUBJECT: STUDY SESSION – FIRST AND FINAL MILE UPDATE

DATE: OCTOBER 24, 2017

PRESENTED BY: ROBERT ZUCCARO, PLANNING & BUILDING SAFETY DEPARTMENT

SUMMARY:

Staff is presenting an update on first and final mile efforts related to McCaslin Station, which supports the Flatiron Flyer Rapid Transit (BRT) service that began operation in January of 2016 as part of the RTD FastTracks program. In 2013, Commuting Solutions, along with local jurisdictions along the US 36 corridor, RTD and CDOT competed the US 36 First and Final Mile Study. This study made several recommendations and set priorities for first and final mile improvements to support park-and-ride stations along the US 36 corridor. The City also recently adopted the McCaslin Small Area Plan in March of this year, which provides additional recommendations on first and final mile improvements and development concepts to support the McCaslin Station. The purpose of first and final mile improvements is to create safe and convenient multi-modal access to transit stations for commuters and reduce barriers for using transit.

CITY COUNCIL COMMUNICATION
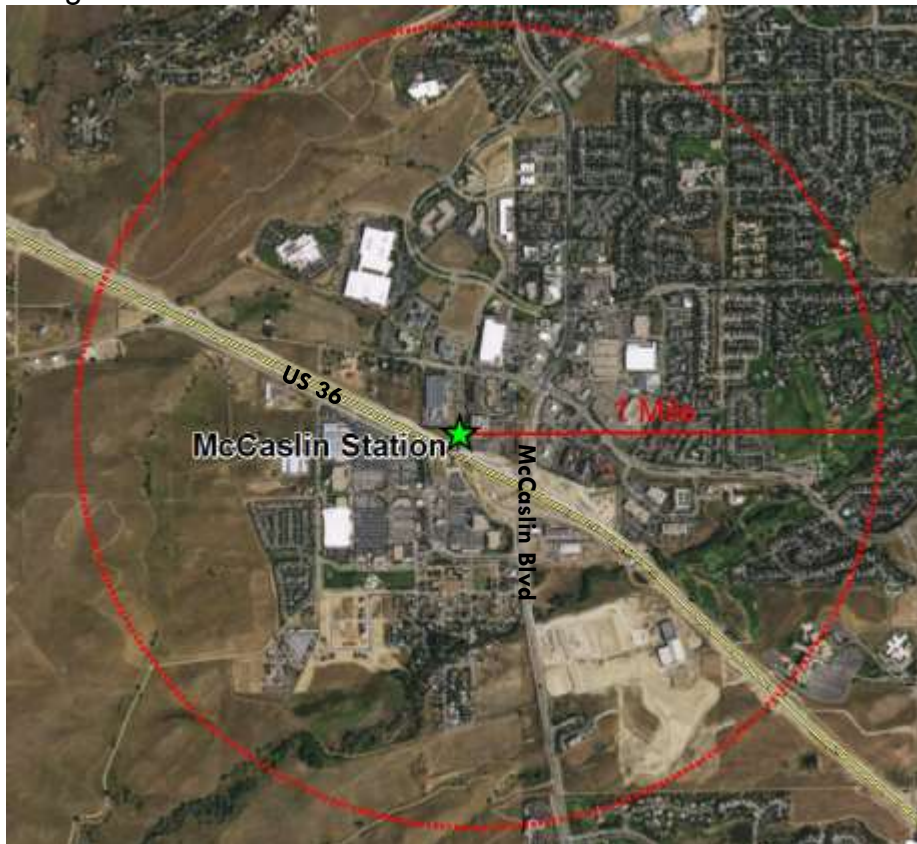
DISCUSSION:
US 36 First and Final Mile Study
The core area around McCaslin Station includes mostly commercial land uses, transitioning to residential uses. Based on the 2013 First and Final Mile Study, the conditions within the 1-mile radius of McCaslin Station included the following:

- 36 miles of roadway
- 10 miles of bike path
- 625 daily station boardings
- Population of 6,851
- Employment of 3,162
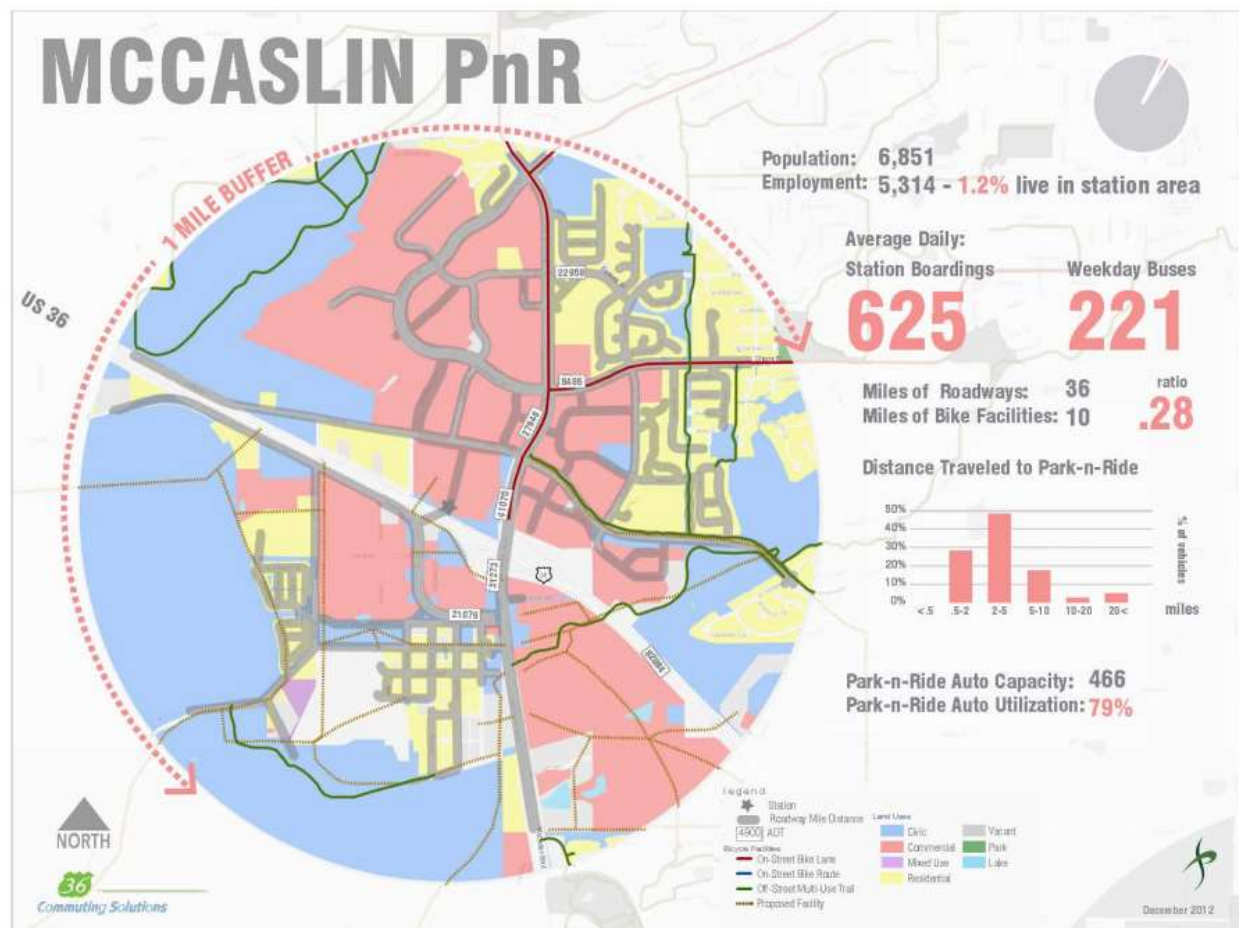
Since 2013, bike path infrastructure has increased with projects such as the US 36 Bikeway and bus utilization has increased significantly with the start of the Flatiron Flyer BRT service. Allowed development with the Superior Town Center, which is within or in close proximity to the 1-mile radius around McCaslin Station, includes up to 1,400 new residential units, 444,600 square feet of commercial development, 373,000 square feet of office development, 150,000 square feet of private recreation facilities, and 400,000

CITY COUNCIL COMMUNICATION

square feet of hospitality. Within Centennial Valley on the Louisville side, there are approximately 80 vacant acres in the 1-mile radius that are zoned primarily for office development, resulting in approximately 800,000 square feet of development potential at full buildout.

The 2013 First and Final Mile Study included the following three corridor-wide recommendations. Each recommendation is in different stages of implementation.

> Bus then Bike Secure Bike Parking – Install secured and covered bicycle parking to support bike and ride access.
>
> > *Status:* Superior installed a Bus and Bike shelter this year on the Superior side of McCaslin Station. Louisville, with the assistance of Boulder County, is working on plans to install a shelter in 2018.
>
> First and Final Mile Signage and Wayfinding – Provide informational signsand wayfinding in proximity to the station.
>
> > *Status:* Local communities in the corridor with the assistance of Commuting Solutions conducted a Bicycle and Pedestrian Accessibility Study that included a plan for wayfinding and branding as an element of the study. In 2016 and 2017, the communities developed a final coordinated wayfinding plan and sign installation is scheduled for 2017.

CITY COUNCIL COMMUNICATION
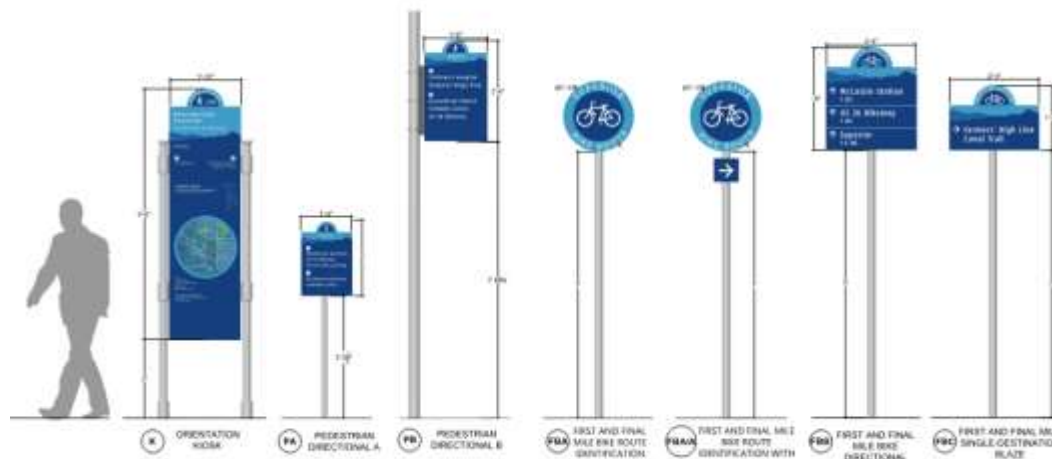
EcoPass Access – Create opportunities for and facilitation of businesses, neighborhoods or schools to provide EcoPasses.

Status: With DRCOG Transportation Demand Management (TDM) grant funding, the City participated in a pilot program with Commuting Solutions to provide businesses with EcoPasses for their employees. The program provided free passes for one year and discounted prices the second year as a way to incentivize use of EcoPasses. This program took place in 2016 and 2017 but is no longer active. In addition, Commuting Solutions and Boulder County currently administer and help fund EcoPass contracts with businesses in Louisville.

The 2013 First and Final Mile Study also noted Louisville's priority projects to improve first and final mile connections for the McCaslin Station. The projects are located in both Louisville and Superior. The following is a summary and status of each.

Underpass across McCaslin Boulevard – Create an underpass to connect Coal Creek Trail, Superior Town Center and South Louisville.

Status: Louisville and Superior constructed an underpass crossing McCaslin Boulevard as part of the DDI construction connecting to Coal Creek Trail.

Call and Ride Service – Peak hour call and ride service for both Superior and Louisville.

Status: RTD provides a Louisville call-and-ride service from McCaslin Station from 5:30 am to 10:00 pm Monday through Friday. A Superior call-and-ride service from McCaslin Station operates from 5:30 am to 7:00 pm Monday through Friday and includes some areas of Louisville in its service area.

Wayfinding – Provide wayfinding to the surrounding street and trail network.

Status: As previously discussed, local communities in the corridor approved a regional coordinated wayfinding sign plan. The signs are scheduled for installation this year.

Pick-up/Drop-off Locations for Park and Ride – Establish priority locations for carpool, vanpools, and shuttles.

Status: Staff is not aware of any specific efforts to create priority areas to accommodate these types of services.

CITY COUNCIL COMMUNICATION

Mini Transportation Hubs – This includes bike share, car share and electric vehicle charging stations.

Status: The City is currently working with other regional jurisdictions and Commuting Solutions on an IGA and contract with Zagster to provide bike share services. The current plans anticipate up to six stations in Louisville in 2018 pending sponsorship. Commuting Solutions is likely to apply for a DRCOG TDM grant to help fund part of the marketing and administrative costs for the program.

Power Line Trail Dillon Road Crossing – Provide an accessible trail crossing at Dillon Road with an enhanced crosswalk to connect the Power Line Trail to Coal Creek Trail.

Status: Trail crossing design and construction is currently in the 2018 CIP.

ADA Accessible Ramps from Bus Platform to Bridge – Add a new ramp on Louisville side to access bus platform.

Status: Added a ramp in 2017.

2017 McCaslin Boulevard Small Area Plan
The majority of the McCaslin Boulevard Small Area Plan study area is within the one-mile radius of McCaslin Station. The Plan lists several multi-modal improvements intended to improve pedestrian and bicycle connections in the plan area and to McCaslin Station. These improvements include the following:

Mid-Block McCaslin Crossing between Cherry and Century – Provide an enhanced pedestrian crossing midblock to provide pedestrians and bicyclists additional opportunities to cross McCaslin.

Status: Designated as a priority for 6-10 years from plan adoption.

CITY COUNCIL COMMUNICATION

Power Line Trail Dillon Road Crossing – As discussed previously, this is an accessible trail crossing at Dillon Road with an enhanced crosswalk to connect Power Line Trail to Coal Creek Trail.

> *Status:* Trail crossing design and construction is currently in the 2018 CIP.

Create Multi-Use Paths along Major Roadways – Improve multi-modal access by expanding current sidewalks or creating new multi-use paths. The plan calls for these improvements on McCaslin Boulevard, Century Drive, and Centennial Parkway.

> *Status:* Designated as a priority for 6-10 years from plan adoption.

Trail Connection from Century Drive to Davidson Mesa – Create a new trailhead on Davidson Mesa and trail connection to planned multi-use paths on Century Drive.

> *Status:* Designated as a priority for 6-10 years from plan adoption.

Trail Connection from Arboretum to McCaslin/Via Appia – provide a new trail connection through the Police Department parcel as an alternate connection to the McCaslin Boulevard and Via Appia intersection.

> *Status:* Designated as a priority for 6-10 years from plan adoption.

Trail Connection from US 36 Trail to Dillon – Connect the US 36 Bikeway to Dillon Rd. near the La Quinta Inn property.

> *Status:* Designated as a priority for 6-10 years from plan adoption.

Add Speed Tables and Right Turn Lanes – Add speed tables and turn lanes to calm traffic and improve pedestrian and bicycle safety at McCaslin and Via Appia, McCaslin and Cherry, and McCaslin and Dillon.

> *Status:* Designated as a priority for 11-20 years from plan adoption.

CITY COUNCIL COMMUNICATION

Extend Medians for Pedestrian Refuge – Extend McCaslin medians to create pedestrian refuges at major intersections.

Status: Designated as a priority for 6-10 years from plan adoption.

Other First and Final Mile Improvements
In addition to the improvements included in the 2013 First and Final Mile Study and 2017 McCaslin Boulevard Small Area Plan, the City has made or facilitated several other multi-modal improvements in the first and final mile area, including:

- Diverging Diamond Interchange – The new DDI provides bike lanes, protected pedestrian crossing, and bus shelters. The DDI project also included construction of an underpass crossing McCaslin Boulevard improving multi-modal connectivity to the east and west sides of the street.

- Coal Creek Trailhead and Connection – Through a development proposal to expand an office building at Coal Creek Business Park, the City secured a new trailhead and public connections to the Coal Creek Trail. The trailhead will include signed public parking in one of the office building parking lots and an informational kiosk sign. The developer is providing public access easements and constructing the trail improvements to create an access way from Dillon Road to the Coal Creek Trail.

- Addition of Bike Lanes and Bump-outs on Centennial Parkway – As part of a public private partnership, the City removed a lane of traffic to add parking, bump-outs, crosswalks and a bicycle lane along Centennial Parkway. The on-street parking provides a protected pedestrian area for the existing and planned sidewalks adjacent to Centennial Parkway and provides designated bicycle lanes to separate vehicular and bicycle traffic.
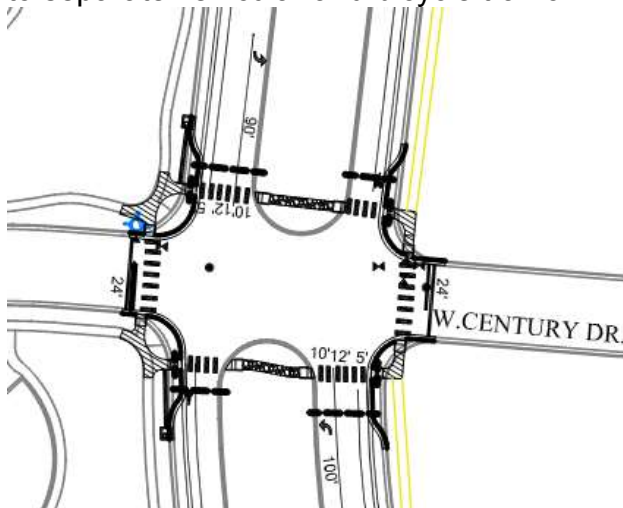
Other First and Final Mile Concepts to Consider
In addition to the infrastructure and other first and final mile policy efforts underway, the following are other concepts to consider.

- Expand Street Grid – Both the 2017 McCaslin Small Area Plan and 2013 Comp Plan include a vision for an expanded and gridded street network as redevelopment takes place to provide more connections and better multi-modal access through the McCaslin corridor. An expanded street

network with appropriate design guidelines would provide more options and infrastructure for all transportation modes. The plans also envision a secondary continuous street connection on the west side of McCaslin from Dillon Road to Via Appia to provide an enhanced multi-modal "spine" to bring slower traffic and a pedestrian and bicycle friendly connection between the north and south sides of the corridor. The City could proactively explore development of this secondary road connection with current property owners or facilitate the creation of the network when redevelopment occurs.

- Expand Shuttle Services – The City could promote the existing call-and-ride service and work with RTD to expand the service if demand were to warrant expansion in the future. In addition, the City could work with a large employer, owners association or metro district that may have interest in providing shuttle service for employees to facilitate the first and final mile connectivity for commuters.

CITY COUNCIL COMMUNICATION

Next Steps
The following are some of the next steps the City plans to take or can participate in to continue to promote first and final mile infrastructure and policy improvements.

- Transportation Master Plan – The City will be drafting a Transportation Master Plan in 2018. This plan will continue to review options for first and final mile connections and make recommendations based on a comprehensive review of the City and region's transportation network. The plan will likely include strategic improvements for connections and infrastructure improvements that would facilitate safe and convenient multi-modal development, prioritization of improvements, and policies to guide future redevelopment that facilitates first and final mile connections.

- Updated Design Guidelines – The City will be drafting updated commercial and industrial design guidelines in 2018. These guidelines can promote and require new multi-modal infrastructure for new development and redevelopment. For example, the guidelines could require public cross-access or development of new street connections across properties as they develop or redevelop and require multi-modal street, path and sidewalk connections.

- RTD First and Last Mile Study – RTD has issued an RFP to hire a consultant to develop a First and Last Mile Strategic Plan for the Denver Metro Region. The primary purpose of the Plan is to define strategies and policies to address multi-modal transportation to RTD transit facilities that will improve connectivity to RTD services, with the ultimate goal of increasing ridership and decreasing access to transit through single occupancy vehicles. The Plan will focus on strengthening multimodal transportation options through physical/infrastructure improvements, service improvements (RTD and others), technological advancements, demand management and incentives and land use policy. The City will have opportunities to participate in this effort and may have the opportunity to participate with a representative on a Stakeholder Advisory Committee.
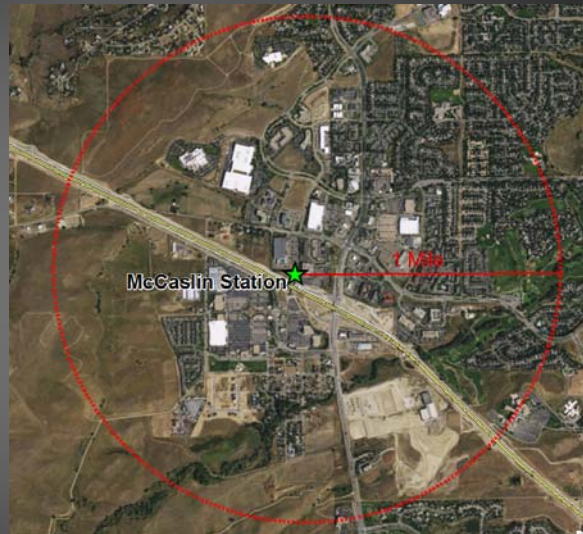
RECOMMENDATION:
The information provided is for discussion purposes.

ATTACHMENT:
  1. Presentation

CITY COUNCIL COMMUNICATION

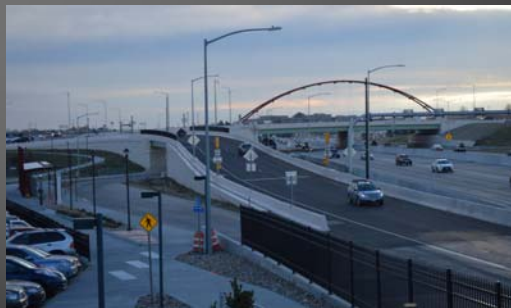## FIRST AND FINAL MILE UPDATE

McCaslin Station

1

FIRST AND FINAL MILE UPDATE

First and Final Mile Concepts

- **Improve transit ridership by removing barriers to and providing safe and convenient multi-modal access to transit stations.**

- **For Louisville, most of Centennial Valley is within one-mile of McCaslin Station. Flatiron Flyer began service in January of 2016, expanding ridership and use of the park-and-ride.**
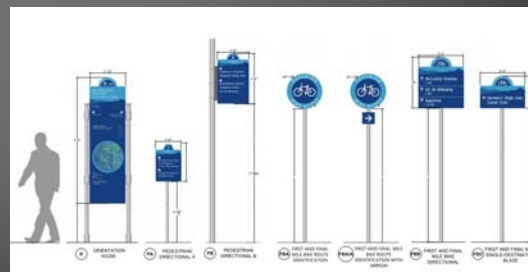

2

FIRST AND FINAL MILE UPDATE

2013 First and Final Mile Study

3
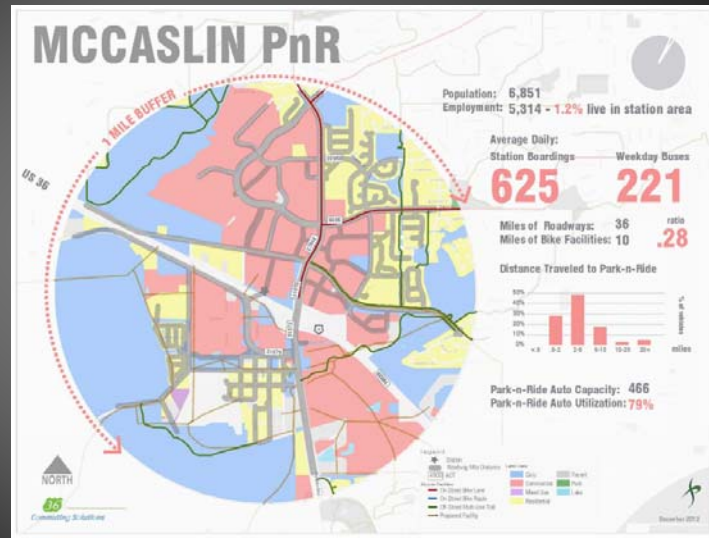
FIRST AND FINAL MILE UPDATE

2013 First and Final Mile Study

Corridor Wide Recommendations

- Bus then Bike Secured Bicycle Parking Structure

- Wayfinding

- EcoPass

4

FIRST AND FINAL MILE UPDATE

2013 First and Final Mile Study

Louisville Priority Improvements

- McCaslin Underpass
- Call and Ride Service
- Wayfinding
- Pick Up/Drop Off Location
- Mini Transportation Hubs
- Powerline Trail Connection
- ADA Accessible Ramps

5

FIRST AND FINAL MILE UPDATE

McCaslin Boulevard Small Area Plan

- Midblock Crossing between Cherry and Century
- Power Line Trail Dillon Road Crossing
- Multi-Use Paths
- Trail Connection to New Davidson Mesa Trailhead
- Trail Connection from Arboretum to McCaslin/Via Appia
- Trail Connection from Dillon to US 36 Trail
- Speed Table and Right Turn Lanes at Major McCaslin Intersections
- Extend Median in McCaslin for Pedestrian Refuges

6

FIRST AND FINAL MILE UPDATE

McCaslin Boulevard Small Area Plan

FIRST AND FINAL MILE UPDATE

McCaslin Boulevard Small Area Plan

FIRST AND FINAL MILE UPDATE

McCaslin Boulevard Small Area Plan
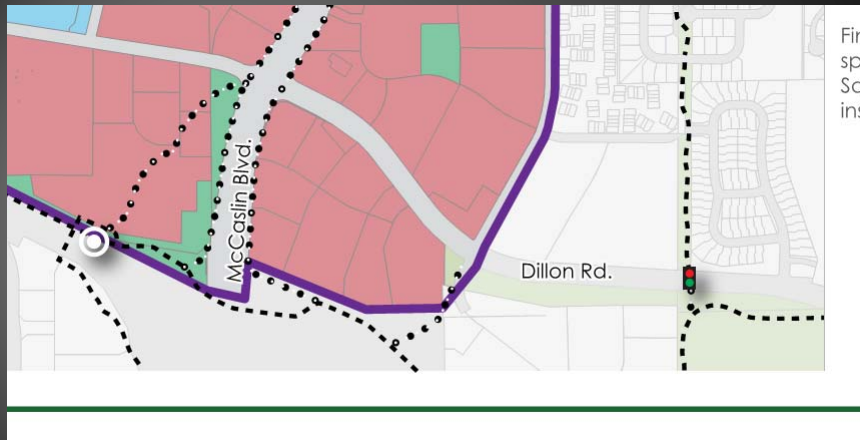
FIRST AND FINAL MILE UPDATE

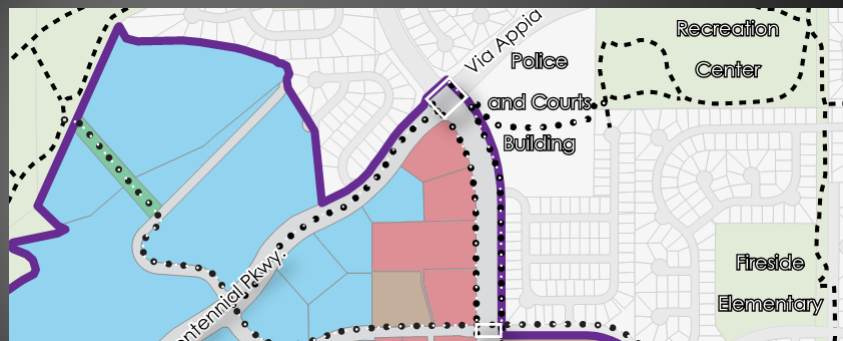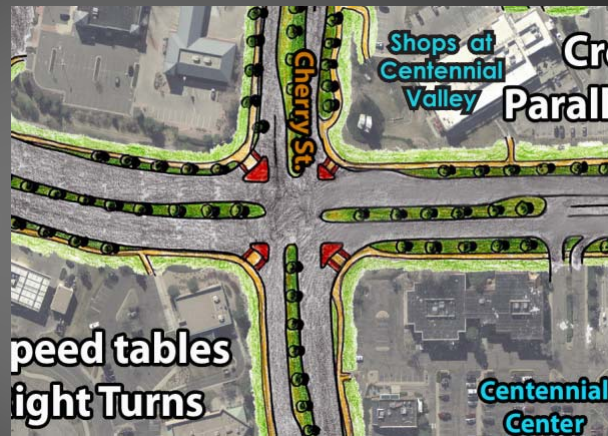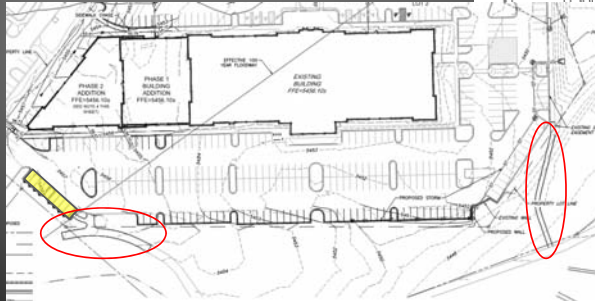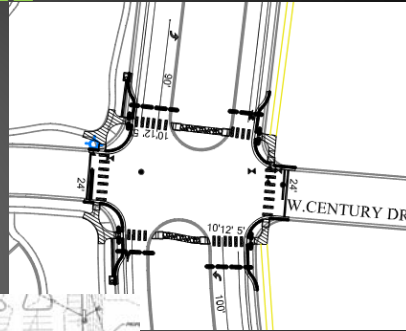McCaslin Boulevard Small Area Plan

FIRST AND FINAL MILE UPDATE

<u>**McCaslin Boulevard Small Area Plan**</u>

11

FIRST AND FINAL MILE UPDATE

<u>**McCaslin Boulevard Small Area Plan**</u>

12

6

FIRST AND FINAL MILE UPDATE

Other Improvements

- **DDI**
- **Coal Creek Trail Head**
- **Centennial Parkway Bike Lanes and Parking**

13

FIRST AND FINAL MILE UPDATE

Next Steps in 2018

- **Transportation Master Plan**
- **Updated Design Guidelines**
- **RTD First and Last Mile Study**

14